Areas			
Sources Heavy construction	Percentage active area, p	Parameter 30.0 %	Remarks Assume % works area for heavy construction
Source ID: Q1: Q2: Q3: 15-S1, 15-S3x	Mitigation efficiency No. of working days per month, d No. of working hours per day, h	91.7 % 30 days 24 hour	Water suppression 12 times a day
	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Usec Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2009
Q4: 15-S1, 15-S3x	Emission Rate	9.34028E-07 g/m <sup>2</sup> /s (unmitigated) 7.75243E-08 g/m <sup>2</sup> /s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
Wind Erosion Source ID: (as above)	Percentage active area, p	30 %	
	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Usec Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
	Emission Rate	2.4258E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Heavy construction Source ID:	Percentage active area, p	66.3 %	Assume % works area for heavy construction
	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
Q2: Q3: 15-NCD1-2x, 15-TRD2, 15-TCPN-1x, 15-EGC5x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
SCCP1, 15-EGC2x, 15-EGC3x, 15-EGC5x	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier User Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
	Emission Rate	2.06535E-06 g/m <sup>2</sup> /s (unmitigated) 1.71424E-07 g/m <sup>2</sup> /s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
Wind Erosion Source ID: (as above)	Percentage active area, p	66.3 %	
	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Usec Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
	Emission Rate	5.36401E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Heavy construction Source ID:	Percentage active area, p	42.4 %	Assume % works area for heavy construction
04. 45 00001 45 AE98 15 AE9194 45 EM94 45 E0094 45 ITT4	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
Q2: 15-SCCP1, 15-AES6, 15-AES13x, 15-EM2x, 15-EGC3x, 15-ITT1 Q3: 15-SCCP1, 15-AES6, 15-AES13x, 15-EM2x, 15-EGC3x, 15-ITT1	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
	Emission Rate	1.31957E-06 g/m <sup>2</sup> /s (unmitigated) 1.09524E-07 g/m <sup>2</sup> /s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
Wind Erosion Source ID: (as above)	Percentage active area, p	42.4 %	
	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
	Emission Rate	3.4271E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Heavy construction Source ID:	Percentage active area, p	42.38 %	Assume % works area for heavy construction Water suppression 12 times a day
Q1: 15-SCRE2x, 15-SCRE5x, 15-AES2x, 15-AES9x, 15-AES11x	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
Q2: 15-SCRE2x, 15-SCRE5x, 15-AES2x, 15-AES9x, 15-AES11x Q3: 15-SCRE2x, 15-SCRE5x, 15-AES2x, 15-AES9x, 15-AES11x Q4:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
	Emission Rate	1.58348E-05 g/m <sup>2</sup> /s (unmitigated)	Assume road width equals 12m, therefore multiply emission ra by 12m. =2.69*0.03*1000000/(10000*d*h*60*60)*p/100 * 12
		1.31429E-06 g/m <sup>2</sup> /s (mitigated)	
Wind Erosion Source ID: (as above)	Percentage active area, p	42.38 %	AP42, Table 11.9-4
	Emission Factor (0.03)	0.0255 Mg/hectare/year	Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
	Emission Rate	3.4271E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Heavy construction Source ID:	Percentage active area, p	30.0 %	Extracted from HKBCF EIA, assume 10% works area for heavy construction
Q2: 15-BCF-C1x, 15-BCF-C4 Q3: 15-BCF-C1x, 15-BCF-C4	Mitigation efficiency No. of working days per month, d No. of working hours per day, h	87.5 % 26 days 12 hour	Extracted from HKBCF EIA Extracted from HKBCF EIA Extracted from HKBCF EIA
	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
	Emission Rate	2.15545E-06 g/m <sup>2</sup> /s (unmitigated) 2.69431E-07 g/m <sup>2</sup> /s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
Wind Erosion Source ID: (as above)	Percentage active area, p	30 %	
	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier User Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
	Emission Rate	2.4258E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Heavy construction Source ID:	Percentage active area, p	30.0 %	Extracted from HKLR EIA, assume 10% works area for heavy construction
Q1: 15-LR-2x, 15-LR-10x, 15-LR-14 Q2: Q3:	Mitigation efficiency No. of working days per month, d No. of working hours per day, h	87.5 % 26 days 12 hour	Extracted from HKLR EIA Extracted from HKLR EIA Extracted from HKLR EIA
Q4:	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Use
	Emission Rate	2.15545E-06 g/m²/s (unmitigated) 2.69431E-07 g/m²/s (mitigated)	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Percentage active area, p	30 %	
Wind Erosion Source ID: (as above)	Percentage active area, p		
Wind Erosion Source ID: (as above)	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
	Sources           Heavy construction Source ID:	Source         Percentage active area, p           Barse 00         Magation efficiency           No. of working days per month, d         No. of working days per month, d           Sci 15 at 1, 15 as a         Emission Factor (0.03)           Control (0, 10, 10, 10, 10, 10, 10, 10, 10, 10, 1	Dotsta         Personal           Mark State         Personal at the state of the

Works Area	Sources		Parameter	Remarks
Third Runway Land	Heavy construction Source ID:	Percentage active area, p	0.4 %	
Formation	For 24hrs activities:			Assume % works area for heavy construction
				Water suppression 12 times a day
	Q1:	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q2:	No of working down you would d		Sources Final Report
	Q3:	No. of working days per month, d	30 days	
		No. of working hours per day, h	24 hour	
	Q4: 16-1_03-1x, 16-1_08A-1, 16-1_08A-2, 16-1_08B-1, 16-1_08B-2, 16-2_04-1x, 16-2_06-2x	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Use
		Emission Rate	1.14236E-08 g/m²/s (unmitigated)	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =2.69*0.03*1000000/(10000*30*h*60*60)*p/100
			9.4816E-10 g/m <sup>2</sup> /s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.4 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Use
				Estimate PM2.5 Fugitive Dust Emissions from PM10, April 20
		Emission Rate	2.96687E-10 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Submarine pipeline	Heavy construction Source ID:	Percentage active area, p	30.0 %	Assume % works area for heavy construction
Submarine cable	Q1: 16-S1, 16-S3x	Mitigation efficiency	91.7 %	Water suppression 12 times a day
	Q2: 16-S1, 16-S3x Q3: 16-S1, 16-S3x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Use
	Q4:			Estimate PM2.5 Fugitive Dust Emissions from PM10, April 20
		Emission Rate	9.34028E-07 g/m²/s (unmitigated) 7.75243E-08 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	30 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Us Estimate PM2.5 Fugitive Dust Emissions from PM10, April 20
		Emission Rate	2.4258E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Concurrent project)	Heavy construction	Percentage active area, p	26.0 %	Assume % works area for heavy construction
	Source ID:	0		Water suppression 12 times a day
NCD works	Q1: 16-NCD1-2x, 16-NCD2-2x, 16-TRD2, 16-TCPN-1x, 16-SCCP1, 16-EGC2x, 16-EGC3x, 16-EGC5x	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 16-NCD1-2x, 16-NCD2-2x, 16-TRD2, 16-TRD3x, 16-TCPN-1x, 16- SCCP1, 16-EGC2x, 16-EGC3x, 16-EGC5x	No. of working days per month, d	30 days	
	Q3: 16-NCD1-2x, 16-NCD2-2x, 16-TRD2, 16-TRD3x, 16-TCPN-1x, 16- SCCP1, 16-EGC2x, 16-EGC3x, 16-EGC5x Q4: 16-NCD1-2x, 16-NCD2-2x, 16-TRD2, 16-TRD3x, 16-TCPN-1x, 16-	No. of working hours per day, h	24 hour	
	SCCP1, 16-EGC2x, 16-EGC3x, 16-EGC5x	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 20
		Emission Rate	8.10666E-07 g/m <sup>2</sup> /s (unmitigated) 6.72853E-08 g/m <sup>2</sup> /s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion	Percentage active area, p	26.0 %	
	Source ID: (as above)	r oroontage active alea, p	_0.0 /0	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 20
		Emission Rate	2.10541E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Concurrent project)	Heavy construction Source ID:	Percentage active area, p	38.2 %	Assume % works area for heavy construction
TT works (area		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
sources)	Q1: 16-AES6, 16-EM2x, 16-ITT1	willyallon emoleticy	J1.1 /0	Sources Final Report
	Q2: 16-AES6, 16-EM2x, 16-ITT1 Q3: 16-AES6, 16-EM2x, 16-ITT1 Q4: 16-AES6, 16-EM2x, 16-ITT1	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Net to head, to Ewen, to the	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Us Estimate PM2.5 Fugitive Dust Emissions from PM10, April 20
		Emission Rate	1.19085E-06 g/m²/s (unmitigated) 9.88403E-08 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100

Wind Erosion Source ID: (as above)	Percentage active area, p	38.2 %	
	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
	Emission Rate	3.09279E-08 g/m <sup>2</sup> /s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100

(Concurrent project)	Heavy construction	Percentage active area, p	38.25 %	Assume % works area for heavy construction
TT works (line sources)	Source ID:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
Roadworks - at grade	Q1: 16-AES2x, 16-AES9x, 16-AES11x Q2: 16-AES2x, 16-AES9x, 16-AES11x Q3: 16-AES2x, 16-AES9x, 16-AES11x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	Q4: 16-AES2x, 16-AES9x, 16-AES11x	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Usec Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.42902E-05 g/m <sup>2</sup> /s (unmitigated)	Assume road width equals 12m, therefore multiply emission rate by 12m.
			1.18608E-06 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100 * 12
	Wind Erosion Source ID: (as above)	Percentage active area, p	38.25 %	AP42, Table 11.9-4
		Emission Factor (0.03)	0.0255 Mg/hectare/year	Thompson G. Pace, USEPA. Examination of the Multiplier User Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
		Emission Rate	3.09279E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
2 Expansion - Advanced Works Temporary Car	Heavy construction Source ID:	Percentage active area, p	1.6 %	Assume % works area for heavy construction Water suppression 12 times a day
Parks at NCD, emporary Road	Q1: 16-TRD5x, 16-TRD3x Q2: 16-TRD5x	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
Diversion)	Q3: 16-TRD5x Q4:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	Thompson G. Pace, USEPA. Examination of the Multiplier User Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
		Emission Rate	5.04328E-08 g/m²/s (unmitigated) 4.18592E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	1.6 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
		Emission Rate	1.30981E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Concurrent project)	Heavy construction Source ID:	Percentage active area, p	30.0 %	Extracted from HKBCF EIA, assume 10% works area for heavy construction
Boundary Crossing Facilities (BCF)	Q1: 16-BCF-C4 Q2: 16-BCF-C4 Q3: 16-BCF-C4	Mitigation efficiency No. of working days per month, d	87.5 % 26 days	Extracted from HKBCF EIA Extracted from HKBCF EIA
	Q4: 16-BCF-C4	No. of working hours per day, h Emission Factor (0.03)	12 hour 0.0807 Mg/hectare/month of activity	Extracted from HKBCF EIA AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Use
		Emission Rate	2.15545E-06 g/m <sup>2</sup> /s (unmitigated) 2.69431E-07 g/m <sup>2</sup> /s (mitigated)	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	30 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Use
		Emission Rate	2.4258E-08 g/m²/s	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Other airport	Heavy construction	Percentage active area, p	5.2 %	Assume % works area for heavy construction
acilities related vorks	Source ID:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 16-ABT1-1x Q2: 16-ABT1-1x Q3: 16-ABT1-1x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	Q4: 16-ABT1-1x	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier User
		Emission Rate	1.6071E-07 g/m²/s (unmitigated) 1.3339E-08 g/m²/s (mitigated)	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	5.2 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Use
		Emission Rate	4.17387E-09 g/m²/s	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Roadworks	Heavy construction Source ID:	Percentage active area, p	5.2 %	Assume % works area for heavy construction
orresponding to Dther airport acilities related		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
vorks	Q1: 16-ABT1-2x Q2: 16-ABT1-2x Q3: 16-ABT1-2x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	Q4: 16-ABT1-2x	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
		Emission Rate	1.92852E-06 g/m <sup>2</sup> /s (unmitigated)	Assume road width equals 12m, therefore multiply emission rate by 12m. =2.69*0.03*1000000/(10000*d*h*60*60)*p/100 * 12
			1.60068E-07 g/m <sup>2</sup> /s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	5.2 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
		Emission Rate	4.17387E-09 g/m²/s	=0.85*0.03*100000/(10000*365*24*60*60)*p/100

Third Runway Land	Sources		Parameter	Remarks
,	Heavy construction	Percentage active area, p	2.0 %	
ormation	Source ID: For 24hrs activities:			Assume % works area for heavy construction
	01.171.021.171.04.171.071.171.070.171.070.171.000.1.171.000.0.17			
	Q1: 17-1_03-1x, 17-1_04x, 17-1_07-1, 17-1_07-2, 17-1_08A-1, 17-1_08A-2, 17-1_08B-1, 17-1_08B-2, 17-1_09-1, 17-1_09-2, 17-2_03B, 17-2_04-1x, 17-2_05B-2, 17-2_05B-2			Water suppression 12 times a day
	1x, 17-2_06-2x, 17-2_07B, 17-2_08, 17-2_09-1, 17-2_09-2	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust
				Sources Final Report
	Q2: 17-1_02-1x, 17-1_03-1x, 17-1_04x, 17-1_07-1, 17-1_07-2, 17-1_08A-1, 17-1_08A-2, 17-1_08B-2, 17-1_09-1, 17-1_09-2, 17-2_03B, 17-			
	2_05B-1x, 17-2_07A-1x, 17-2_07B, 17-2_08, 17-2_09-1, 17-2_09-2, 17-3_01A-	No. of working days per month. d	30 days	
	1x, 17-3_01A-3			
	Q3: 17-1_02-1x, 17-1_03-1x, 17-1_04x, 17-1_05, 17-1_07-1, 17-1_07-2, 17-			
	1_08A-1, 17-1_08A-2, 17-1_08B-1, 17-1_08B-2, 17-2_03B, 17-2_05B-1x, 17-2_07A-1x, 17-2_07B, 17-2_08, 17-3_01A-1x, 17-3_01A-3			
	2_0/A*1X, 1/*2_0/0, 1/*2_00, 1/*3_0/A*1X, 1/*3_0/A*3	No. of working hours per day, h	24 hour	
	Q4: 17-1_02-1x, 17-1_03-1x, 17-1_04x, 17-1_05, 17-1_07-1, 17-1_07-2, 17-1_08A-1, 17-1_08A-2, 17-2_03B, 17-2_05A, 17-2_05B-1x, 17-2_07A-1x, 17-			AP42, Section 13.2.3.3
	2_07B, 17-2_08	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	Thompson G. Pace, USEPA. Examination of the Multiplier Use
				Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
		Emission Rate	6.08149E-08 g/m²/s (unmitigated) 5.04763E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*30*h*60*60)*p/100
			5.04705E-03 g/m/3 (mitgated)	
	For night-time activities:	Percentage active area, p	2.0 %	
	Q1:	Mitigation officiancy		
		Mitigation efficiency	91.7 %	
	Q2: 17-2_04-1x, 17-2_06-2x	No. of working days per month, d	30 days	
	Q3: 17-1_09-1, 17-1_09-2, 17-2_04-1x, 17-2_06-2x, 17-2_09-1, 17-2_09-2	Nie of condition because and the b		
		No. of working hours per day, h	12 (night) hour	
	Q4: 17-1_09-1, 17-1_09-2, 17-2_04-1x, 17-2_06-2x, 17-2_09-1, 17-2_09-2, 17-3 02A-2x, 17-3 02A-1			AP42, Section 13.2.3.3
	5_52A2X, 17-5_62A-1	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	Thompson G. Pace, USEPA. Examination of the Multiplier Use
				Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
		Emission Rate	1.2163E-07 g/m <sup>2</sup> /s (unmitigated)	=2.69*0.03*1000000/(10000*30*h*60*60)*p/100
			1.00953E-08 g/m <sup>2</sup> /s (mitigated)	
	Wind Erosion	Percentage estive gree n	2.0 %	
	Source ID: (as above)	Percentage active area, p	2.0 %	
				AP42, Table 11.9-4
		Emission Factor (0.03)	0.0255 Mg/hectare/year	Thompson G. Pace, USEPA. Examination of the Multiplier User Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
		- · ·		
		Emission Rate	1.57945E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Third Runway	Wind Erosion			Based on scheme design of definition for sand fill materials
initia i tanimay	Source ID:	Percentage active area, p	20.0 %	consisting of coarse materials with size not exceeding 37.5mm
Mind Franian (anh)	Q1:			
wind Erosion (only)				AP42, Table 11.9-4
wind Erosion (only)		Emission Factor (0.03)	0.0255 Mg/hectare/year	Thompson G. Pace, USEPA. Examination of the Multiplier User
wind Erosion (only)				Thompson G. Pace, USEPA. Examination of the Multiplier Used Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
wind Erosion (only)	Q2:	Emission Factor (0.03) Emission Rate	0.0255 Mg/hectare/year 1.6172E-08 g/m²/s	Thompson G. Pace, USEPA. Examination of the Multiplier Used Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2009 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
wind Erosion (only)				Thompson G. Pace, USEPA. Examination of the Multiplier Used Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
Third Runway Other	Q2: Q3: Q4: 1_08B-1, 1_08B-2, 3_01A-1, 3_01A-2, 3_01A-3 Heavy construction			Thompson G. Pace, USEPA. Examination of the Multiplier User Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Third Runway Other Construction	Q2: Q3: Q4: 1_08B-1, 1_08B-2, 3_01A-1, 3_01A-2, 3_01A-3	Emission Rate	1.6172E-08 g/m²/s	Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction
Third Runway Other Construction Norks/Facilities on	Q2: Q3: Q4: 1_08B-1, 1_08B-2, 3_01A-1, 3_01A-2, 3_01A-3 Heavy construction Source ID:	Emission Rate	1.6172E-08 g/m²/s	Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Third Runway Other Construction Norks/Facilities on	Q2: Q3: Q4: 1_08B-1, 1_08B-2, 3_01A-1, 3_01A-2, 3_01A-3 Heavy construction Source ID: Q1: 17-4_04, 17-4_05-1	Emission Rate Percentage active area, p Mitigation efficiency	1.6172E-08 g/m²/s 0.1 % 91.7 %	Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day
Third Runway Other Construction Norks/Facilities on	Q2: Q3: Q4: 1_08B-1, 1_08B-2, 3_01A-1, 3_01A-2, 3_01A-3 Heavy construction Source ID: Q1: 17-4_04, 17-4_05-1 Q2: 17-4_04, 17-4_05-1	Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d	1.6172E-08 g/m²/s 0.1 % 91.7 % 30 days	Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
Third Runway Other Construction Works/Facilities on	Q2: Q3: Q4: 1_08B-1, 1_08B-2, 3_01A-1, 3_01A-2, 3_01A-3 Heavy construction Source ID: Q1: 17-4_04, 17-4_05-1	Emission Rate Percentage active area, p Mitigation efficiency	1.6172E-08 g/m²/s 0.1 % 91.7 %	Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
Third Runway Other Construction Norks/Facilities on	Q2: Q3: Q4: 1_08B-1, 1_08B-2, 3_01A-1, 3_01A-2, 3_01A-3 Heavy construction Source ID: Q1: 17-4_04, 17-4_05-1 Q2: 17-4_04, 17-4_05-1 Q3: 17-4_04, 17-4_05-1	Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h	1.6172E-08 g/m²/s 0.1 % 91.7 % 30 days 24 hour	Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report AP42, Section 13.2.3.3
Wind Erosion (only) Third Runway Other Construction Works/Facilities on newly formed land	Q2: Q3: Q4: 1_08B-1, 1_08B-2, 3_01A-1, 3_01A-2, 3_01A-3 Heavy construction Source ID: Q1: 17-4_04, 17-4_05-1 Q2: 17-4_04, 17-4_05-1 Q3: 17-4_04, 17-4_05-1	Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d	1.6172E-08 g/m²/s 0.1 % 91.7 % 30 days	Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Use
Third Runway Other Construction Works/Facilities on	Q2: Q3: Q4: 1_08B-1, 1_08B-2, 3_01A-1, 3_01A-2, 3_01A-3 Heavy construction Source ID: Q1: 17-4_04, 17-4_05-1 Q2: 17-4_04, 17-4_05-1 Q3: 17-4_04, 17-4_05-1	Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor (0.03)	1.6172E-08 g/m <sup>2</sup> /s 0.1 % 91.7 % 30 days 24 hour 0.0807 Mg/hectare/month of activity	Thompson G. Pace, USEPA. Examination of the Multiplier User Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier User Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
Third Runway Other Construction Norks/Facilities on	Q2: Q3: Q4: 1_08B-1, 1_08B-2, 3_01A-1, 3_01A-2, 3_01A-3 Heavy construction Source ID: Q1: 17-4_04, 17-4_05-1 Q2: 17-4_04, 17-4_05-1 Q3: 17-4_04, 17-4_05-1	Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h	1.6172E-08 g/m²/s 0.1 % 91.7 % 30 days 24 hour	Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Use
Third Runway Other Construction Norks/Facilities on	Q2: Q3: Q4: 1_08B-1, 1_08B-2, 3_01A-1, 3_01A-2, 3_01A-3 Heavy construction Source ID: Q1: 17-4_04, 17-4_05-1 Q2: 17-4_04, 17-4_05-1 Q3: 17-4_04, 17-4_05-1 Q4: 17-4_04, 17-4_05-1	Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor (0.03) Emission Rate	1.6172E-08 g/m <sup>2</sup> /s 0.1 % 91.7 % 30 days 24 hour 0.0807 Mg/hectare/month of activity 2.1033E-09 g/m <sup>2</sup> /s (unmitigated) 1.74574E-10 g/m <sup>2</sup> /s (mitigated)	Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
Third Runway Other Construction Norks/Facilities on	Q2: Q3: Q4: 1_08B-1, 1_08B-2, 3_01A-1, 3_01A-2, 3_01A-3 Heavy construction Source ID: Q1: 17-4_04, 17-4_05-1 Q2: 17-4_04, 17-4_05-1 Q3: 17-4_04, 17-4_05-1	Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor (0.03)	1.6172E-08 g/m <sup>2</sup> /s 0.1 % 91.7 % 30 days 24 hour 0.0807 Mg/hectare/month of activity 2.1033E-09 g/m <sup>2</sup> /s (unmitigated)	Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
Third Runway Other Construction Norks/Facilities on	Q2: Q3: Q4: 1_08B-1, 1_08B-2, 3_01A-1, 3_01A-2, 3_01A-3 Heavy construction Source ID: Q1: 17-4_04, 17-4_05-1 Q2: 17-4_04, 17-4_05-1 Q3: 17-4_04, 17-4_05-1 Q4: 17-4_04, 17-4_05-1 Q4: 17-4_04, 17-4_05-1	Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor (0.03) Emission Rate	1.6172E-08 g/m <sup>2</sup> /s 0.1 % 91.7 % 30 days 24 hour 0.0807 Mg/hectare/month of activity 2.1033E-09 g/m <sup>2</sup> /s (unmitigated) 1.74574E-10 g/m <sup>2</sup> /s (mitigated)	Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
Third Runway Other Construction Norks/Facilities on	Q2: Q3: Q4: 1_08B-1, 1_08B-2, 3_01A-1, 3_01A-2, 3_01A-3 Heavy construction Source ID: Q1: 17-4_04, 17-4_05-1 Q2: 17-4_04, 17-4_05-1 Q3: 17-4_04, 17-4_05-1 Q4: 17-4_04, 17-4_05-1 Q4: 17-4_04, 17-4_05-1	Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor (0.03) Emission Rate	1.6172E-08 g/m <sup>2</sup> /s 0.1 % 91.7 % 30 days 24 hour 0.0807 Mg/hectare/month of activity 2.1033E-09 g/m <sup>2</sup> /s (unmitigated) 1.74574E-10 g/m <sup>2</sup> /s (mitigated)	Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100 AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Use
Third Runway Other Construction Norks/Facilities on	Q2: Q3: Q4: 1_08B-1, 1_08B-2, 3_01A-1, 3_01A-2, 3_01A-3 Heavy construction Source ID: Q1: 17-4_04, 17-4_05-1 Q2: 17-4_04, 17-4_05-1 Q3: 17-4_04, 17-4_05-1 Q4: 17-4_04, 17-4_05-1 Q4: 17-4_04, 17-4_05-1	Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor (0.03) Emission Rate Percentage active area, p	1.6172E-08 g/m²/s         0.1 %         91.7 %         30 days         24 hour         0.0807 Mg/hectare/month of activity         2.1033E-09 g/m²/s (unmitigated)         1.74574E-10 g/m²/s (mitigated)         0.1 %	Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100 AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Use
Third Runway Other Construction Vorks/Facilities on	Q2: Q3: Q4: 1_08B-1, 1_08B-2, 3_01A-1, 3_01A-2, 3_01A-3 Heavy construction Source ID: Q1: 17-4_04, 17-4_05-1 Q2: 17-4_04, 17-4_05-1 Q3: 17-4_04, 17-4_05-1 Q4: 17-4_04, 17-4_05-1 Q4: 17-4_04, 17-4_05-1	Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor (0.03) Emission Rate Percentage active area, p	1.6172E-08 g/m²/s         0.1 %         91.7 %         30 days         24 hour         0.0807 Mg/hectare/month of activity         2.1033E-09 g/m²/s (unmitigated)         1.74574E-10 g/m²/s (mitigated)         0.1 %	Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100 AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Use
Third Runway Other Construction Vorks/Facilities on	Q2: Q3: Q4: 1_08B-1, 1_08B-2, 3_01A-1, 3_01A-2, 3_01A-3 Heavy construction Source ID: Q1: 17-4_04, 17-4_05-1 Q2: 17-4_04, 17-4_05-1 Q3: 17-4_04, 17-4_05-1 Q4: 17-4_04, 17-4_05-1 Q4: 17-4_04, 17-4_05-1	Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor (0.03) Emission Rate Percentage active area, p Emission Factor (0.03)	1.6172E-08 g/m²/s         0.1 %         91.7 %         30 days         24 hour         0.0807 Mg/hectare/month of activity         2.1033E-09 g/m²/s (unmitigated)         1.74574E-10 g/m²/s (mitigated)         0.1 %         0.0255 Mg/hectare/year	Thompson G. Pace, USEPA. Examination of the Multiplier Use         Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200         =0.85*0.03*1000000/(10000*365*24*60*60)*p/100         Assume % works area for heavy construction         Water suppression 12 times a day         Equation (3-2) in the USEPA's Control of Open Fugitive Dust         Sources Final Report         AP42, Section 13.2.3.3         Thompson G. Pace, USEPA. Examination of the Multiplier Use         Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200         =2.69*0.03*1000000/(10000*d*h*60*60)*p/100         AP42, Table 11.9-4         Thompson G. Pace, USEPA. Examination of the Multiplier Use         Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200         =2.69*0.03*1000000/(10000*d*h*60*60)*p/100
Third Runway Other Construction Vorks/Facilities on lewly formed land	Q2: Q3: Q4: 1_08B-1, 1_08B-2, 3_01A-1, 3_01A-2, 3_01A-3 Heavy construction Source ID: Q1: 17-4_04, 17-4_05-1 Q2: 17-4_04, 17-4_05-1 Q3: 17-4_04, 17-4_05-1 Q4: 17-4_04, 17-4_05-1 Wind Erosion Source ID: (as above) Heavy construction	Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor (0.03) Emission Rate Percentage active area, p Emission Factor (0.03)	1.6172E-08 g/m²/s         0.1 %         91.7 %         30 days         24 hour         0.0807 Mg/hectare/month of activity         2.1033E-09 g/m²/s (unmitigated)         1.74574E-10 g/m²/s (mitigated)         0.1 %         0.0255 Mg/hectare/year	Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100 AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Third Runway Other Construction Vorks/Facilities on Newly formed land	Q2: Q3: Q4: 1_08B-1, 1_08B-2, 3_01A-1, 3_01A-2, 3_01A-3 Heavy construction Source ID: Q1: 17-4_04, 17-4_05-1 Q2: 17-4_04, 17-4_05-1 Q3: 17-4_04, 17-4_05-1 Q4: 17-4_04, 17-4_05-1 Wind Erosion Source ID: (as above)	Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor (0.03) Emission Rate Percentage active area, p Emission Factor (0.03) Emission Rate	1.6172E-08 g/m²/s         0.1 %         91.7 %         30 days         24 hour         0.0807 Mg/hectare/month of activity         2.1033E-09 g/m²/s (unmitigated)         1.74574E-10 g/m²/s (mitigated)         0.1 %         0.1255 Mg/hectare/year         5.46255E-11 g/m²/s	Thompson G. Pace, USEPA. Examination of the Multiplier Use         Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200         =0.85*0.03*1000000/(10000*365*24*60*60)*p/100         Assume % works area for heavy construction         Water suppression 12 times a day         Equation (3-2) in the USEPA's Control of Open Fugitive Dust         Sources Final Report         AP42, Section 13.2.3.3         Thompson G. Pace, USEPA. Examination of the Multiplier Use         Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200         =2.69*0.03*1000000/(10000*d*h*60*60)*p/100         AP42, Table 11.9-4         Thompson G. Pace, USEPA. Examination of the Multiplier Use         Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200         =0.85*0.03*1000000/(10000*365*24*60*60)*p/100         AP42, Table 11.9-4         Thompson G. Pace, USEPA. Examination of the Multiplier Use         Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200         =0.85*0.03*1000000/(10000*365*24*60*60)*p/100         Assume % works area for heavy construction
Third Runway Other Construction Vorks/Facilities on lewly formed land	Q2:         Q3:         Q4: 1_08B-1, 1_08B-2, 3_01A-1, 3_01A-2, 3_01A-3         Heavy construction         Source ID:         Q1: 17-4_04, 17-4_05-1         Q2: 17-4_04, 17-4_05-1         Q3: 17-4_04, 17-4_05-1         Q4: 17-4_04, 17-4_05-1         Wind Erosion         Source ID: (as above)         Heavy construction         Source ID:	Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor (0.03) Emission Rate Percentage active area, p Emission Factor (0.03) Emission Rate Percentage active area, p	1.6172E-08 g/m²/s         0.1 %         91.7 %         30 days         24 hour         0.0807 Mg/hectare/month of activity         2.1033E-09 g/m²/s (unmitigated)         1.74574E-10 g/m²/s (mitigated)         0.1 %         0.1255 Mg/hectare/year         5.46255E-11 g/m²/s	Thompson G. Pace, USEPA. Examination of the Multiplier Use         Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200         =0.85*0.03*1000000/(10000*365*24*60*60)*p/100         Assume % works area for heavy construction         Water suppression 12 times a day         Equation (3-2) in the USEPA's Control of Open Fugitive Dust         Sources Final Report         AP42, Section 13.2.3.3         Thompson G. Pace, USEPA. Examination of the Multiplier Use         Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200         =2.69*0.03*1000000/(10000*d*h*60*60)*p/100         AP42, Table 11.9-4         Thompson G. Pace, USEPA. Examination of the Multiplier Use         Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200         =2.69*0.03*1000000/(10000*d*h*60*60)*p/100         AP42, Table 11.9-4         Thompson G. Pace, USEPA. Examination of the Multiplier Use         Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200         =0.85*0.03*1000000/(10000*365*24*60*60)*p/100         Assume % works area for heavy construction         Water suppression 12 times a day
Third Runway Other Construction Vorks/Facilities on ewly formed land	Q2:       Q3:         Q4: 1_08B-1, 1_08B-2, 3_01A-1, 3_01A-2, 3_01A-3         Heavy construction         Source ID:         Q1: 17-4_04, 17-4_05-1         Q3: 17-4_04, 17-4_05-1         Q3: 17-4_04, 17-4_05-1         Q4: 17-4_04, 17-4_05-1         Q4: 17-4_04, 17-4_05-1         Wind Erosion         Source ID:         Wind Erosion         Source ID: (as above)         Heavy construction         Source ID:         Q1: 17-NCD1-2x, 17-NCD2-2x, 17-TRD2, 17-TRD3x, 17-TCPN-1x, 17-SCCP1, 17-TEGC2x, 17-TEGC3x	Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor (0.03) Emission Rate Percentage active area, p Emission Factor (0.03) Emission Rate	1.6172E-08 g/m²/s         0.1 %         91.7 %         30 days         24 hour         0.0807 Mg/hectare/month of activity         2.1033E-09 g/m²/s (unmitigated)         1.74574E-10 g/m²/s (mitigated)         0.1 %         0.1 %         0.1255 Mg/hectare/year         5.46255E-11 g/m²/s         9.2 %	Thompson G. Pace, USEPA. Examination of the Multiplier Use         Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200         =0.85*0.03*1000000/(10000*365*24*60*60)*p/100         Assume % works area for heavy construction         Water suppression 12 times a day         Equation (3-2) in the USEPA's Control of Open Fugitive Dust         Sources Final Report         AP42, Section 13.2.3.3         Thompson G. Pace, USEPA. Examination of the Multiplier Use         Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200         =2.69*0.03*1000000/(10000*d*h*60*60)*p/100         AP42, Table 11.9-4         Thompson G. Pace, USEPA. Examination of the Multiplier Use         Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200         =0.85*0.03*1000000/(10000*365*24*60*60)*p/100         AP42, Table 11.9-4         Thompson G. Pace, USEPA. Examination of the Multiplier Use         Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200         =0.85*0.03*1000000/(10000*365*24*60*60)*p/100         Assume % works area for heavy construction
hird Runway Other construction Vorks/Facilities on ewly formed land	Q2: Q3: Q4: 1_08B-1, 1_08B-2, 3_01A-1, 3_01A-2, 3_01A-3 Heavy construction Source ID: Q1: 17-4_04, 17-4_05-1 Q2: 17-4_04, 17-4_05-1 Q4: 17-4_04, 17-4_05-1 Q4: 17-4_04, 17-4_05-1 Wind Erosion Source ID: (as above) Heavy construction Source ID: Q1: 17-NCD1-2x, 17-NCD2-2x, 17-TRD2, 17-TRD3x, 17-TCPN-1x, 17-SCCP1, 17-EGC2x, 17-EGC3x, 17-EGC5x Q2: 17-NCD1-2x, 17-NCD2-2x, 17-TRD2, 17-TRD3x, 17-TCPN-1x, 17-SCCP1, 17-EGC2x, 17-NCD1-2x, 17-NCD2-2x, 17-NCD2-2x, 17-TRD3x, 17-TCPN-1x, 17-SCCP1, 17-EGC2x, 17-NCD1-2x, 17-NCD2-2x, 17-TRD3x, 17-TCPN-1x, 17-SCCP1, 17-EGC2x, 17-NCD1-2x, 17-NCD2-2x, 17-TRD3x, 17-TCPN-1x, 17-SCCP1, 17-EGC2x, 17-NCD1-2x, 17-NCD2-2x, 17-TRD3x, 17-TCPN-1x, 17-SCCP1, 17-EGC2x, 17-SCCP1, 17-EGC2x, 17-SCCP1, 17-EGC2x, 17-SCCP1, 17-EGC2x, 17-SCCP1, 17-EGC2x, 17-SCCP1, 17-EGC2x	Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor (0.03) Emission Rate Percentage active area, p Emission Factor (0.03) Emission Rate Percentage active area, p	1.6172E-08 g/m²/s         0.1 %         91.7 %         30 days         24 hour         0.0807 Mg/hectare/month of activity         2.1033E-09 g/m²/s (unmitigated)         1.74574E-10 g/m²/s (mitigated)         0.1 %         0.1 %         0.1255 Mg/hectare/year         5.46255E-11 g/m²/s         9.2 %	Thompson G. Pace, USEPA. Examination of the Multiplier Use         Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200         =0.85*0.03*1000000/(10000*365*24*60*60)*p/100         Assume % works area for heavy construction         Water suppression 12 times a day         Equation (3-2) in the USEPA's Control of Open Fugitive Dust         Sources Final Report         AP42, Section 13.2.3.3         Thompson G. Pace, USEPA. Examination of the Multiplier Use         Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200         =2.69*0.03*1000000/(10000*d*h*60*60)*p/100         AP42, Table 11.9-4         Thompson G. Pace, USEPA. Examination of the Multiplier Use         Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200         =2.69*0.03*1000000/(10000*d*h*60*60)*p/100         AP42, Table 11.9-4         Thompson G. Pace, USEPA. Examination of the Multiplier Use         Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200         =0.85*0.03*1000000/(10000*365*24*60*60)*p/100         Assume % works area for heavy construction         Water suppression 12 times a day         Equation (3-2) in the USEPA's Control of Open Fugitive Dust
Third Runway Other Construction Vorks/Facilities on lewly formed land	Q2:       Q3:         Q4: 1_08B-1, 1_08B-2, 3_01A-1, 3_01A-2, 3_01A-3         Heavy construction         Source ID:         Q1: 17-4_04, 17-4_05-1         Q3: 17-4_04, 17-4_05-1         Q4: 17-4_04, 17-4_05-1         Q4: 17-4_04, 17-4_05-1         Q4: 17-4_04, 17-4_05-1         Wind Erosion         Source ID:         Wind Erosion         Source ID: (as above)         Heavy construction         Source ID:         Q1: 17-NCD1-2x, 17-NCD2-2x, 17-TRD2, 17-TRD3x, 17-TCPN-1x, 17-SCCP1, 17-EGC2x, 17-EGC3x, 17-EGC5x         Q2: 17-NCD1-2x, 17-NCD2-2x, 17-TRD2, 17-TRD3x, 17-TCPN-1x, 17-SCCP1, 17-EGC2x, 17-EGC3x, 17-EGC5x         Q3: 17-NCD1-2x, 17-NCD2-2x, 17-TRD2, 17-TRD3x, 17-TCPN-1x, 17-SCCP1, 17-EGC2x, 17-EGC5x         Q3: 17-NCD1-2x, 17-NCD2-2x, 17-TRD2, 17-TRD3x, 17-TCPN-1x, 17-SCCP1, 17-EGC2x, 17-EGC5x         Q3: 17-NCD1-2x, 17-NCD2-2x, 17-TRD2, 17-TRD3x, 17-TCPN-1x, 17-SCCP1, 17-EGC2x, 17-EGC5x	Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor (0.03) Emission Rate Percentage active area, p Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d	1.6172E-08 g/m²/s         0.1 %         91.7 %         30 days         24 hour         0.0807 Mg/hectare/month of activity         2.1033E-09 g/m²/s (unmitigated)         1.74574E-10 g/m²/s (mitigated)         0.1 %         0.1 %         0.1 %         9.2 %         91.7 %         30 days	Thompson G. Pace, USEPA. Examination of the Multiplier Use         Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200         =0.85*0.03*1000000/(10000*365*24*60*60)*p/100         Assume % works area for heavy construction         Water suppression 12 times a day         Equation (3-2) in the USEPA's Control of Open Fugitive Dust         Sources Final Report         AP42, Section 13.2.3.3         Thompson G. Pace, USEPA. Examination of the Multiplier Use         Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200         =2.69*0.03*1000000/(10000*d*h*60*60)*p/100         AP42, Table 11.9-4         Thompson G. Pace, USEPA. Examination of the Multiplier Use         Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200         =2.69*0.03*1000000/(10000*d*h*60*60)*p/100         AP42, Table 11.9-4         Thompson G. Pace, USEPA. Examination of the Multiplier Use         Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200         =0.85*0.03*1000000/(10000*365*24*60*60)*p/100         Assume % works area for heavy construction         Water suppression 12 times a day         Equation (3-2) in the USEPA's Control of Open Fugitive Dust
Third Runway Other Construction Norks/Facilities on	Q2:       Q3:         Q4: 1_08B-1, 1_08B-2, 3_01A-1, 3_01A-2, 3_01A-3         Heavy construction         Source ID:         Q1: 17-4_04, 17-4_05-1         Q3: 17-4_04, 17-4_05-1         Q3: 17-4_04, 17-4_05-1         Q4: 17-4_04, 17-4_05-1         Q4: 17-4_04, 17-4_05-1         Wind Erosion         Source ID:         Wind Erosion         Source ID: (as above)         Heavy construction         Source ID:         Q1: 17-NCD1-2x, 17-NCD2-2x, 17-TRD2, 17-TRD3x, 17-TCPN-1x, 17-SCCP1, 17-EGC2x, 17-EGC3x, 17-EGC5x         Q2: 17-NCD1-2x, 17-NCD2-2x, 17-TRD2, 17-TRD3x, 17-TCPN-1x, 17-SCCP1, 17-EGC2x, 17-EGC3x, 17-EGC5x         Q3: 12-NCD1-2x, 17-NCD2-2x, 17-TRD2, 12-TRD3x, 17-TCPN-1x, 17-SCCP1, 17-FEGC2x, 17-EGC3x, 17-EGC5x         Q3: 12-NCD1-2x, 17-NCD2-2x, 17-TRD2, 12-TRD3x, 17-TCPN-1x, 17-SCCP1, 17-FEGC2x, 17-EGC3x, 17-EGC5x	Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor (0.03) Emission Rate Percentage active area, p Emission Rate Percentage active area, p Mitigation efficiency	1.6172E-08 g/m²/s         0.1 %         91.7 %         30 days         24 hour         0.0807 Mg/hectare/month of activity         2.1033E-09 g/m²/s (unmitigated)         1.74574E-10 g/m²/s (mitigated)         0.1 %         0.1 %         0.1255 Mg/hectare/year         5.46255E-11 g/m²/s         91.7 %	Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100 AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust

	Emission Factor (0.03)		Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
	Emission Rate	2.8757E-07 g/m²/s (unmitigated) 2.38683E-08 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
Wind Erosion Source ID: (as above)	Percentage active area, p	9.2 %	
	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
	Emission Rate	7.46858E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100

Appendix 5.2.9 - Details of Dust Emission Sources for Tier 2	2 FSP Assessment at Year 2017
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Appendix 5.2.9 - De	tails of Dust Emission Sources for Tier 2 FSP Assessment	at Year 2017		
(Concurrent project)	Heavy construction Source ID:	Percentage active area, p	28.8 %	Assume % works area for heavy construction
ITT works (area sources)		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 17-AES6 Q2: Q3:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	Q4:	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	8.9612E-07 g/m²/s (unmitigated) 7.4378E-08 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	28.8 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	2.32735E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
(Concurrent project)	Heavy construction	Percentage active area, p	28.78 %	Assume % works area for heavy construction
ITT works (line sources)	Source ID:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
Roadworks - at grade	Q1: 17-AES2x, 17-AES9x, 17-AES11x Q2: Q3:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	Q4:	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.07534E-05 g/m²/s (unmitigated)	Assume road width equals 12m, therefore multiply emission rate by 12m.
			8.92536E-07 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100 * 12
	Wind Erosion Source ID: (as above)	Percentage active area, p	28.78 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	2.32735E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
South Cargo	Heavy construction	Percentage active area, p	55.17 %	Assume % works area for heavy construction
Roadworks - at grade	Source ID: Q1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 17-CA1x Q3: 17-CA1x Q4: 17-CA1x Q4: 17-CA1x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	2.06138E-05 g/m <sup>2</sup> /s (unmitigated)	Assume road width equals 12m, therefore multiply emission rate by 12m.
			1.71095E-06 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100 * 12
	Wind Erosion Source ID: (as above)	Percentage active area, p	55.17 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to
		Emission Rate	4.46141E-08 g/m²/s	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
South Cargo	Heavy construction	Percentage active area in	55.2 %	
South Cargo Roadworks - viaduct	Heavy construction Source ID:	Percentage active area, p	55.2 %	Assume % works area for heavy construction Water suppression 12 times a day
	Q1: Q2: 17-CA3x, 17-CA6x	Mitigation efficiency No. of working days per month, d	91.7 % 30 days	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q3: 17-CA3x, 17-CA6x Q4: 17-CA3x, 17-CA6x	No. of working hours per day, h	24 hour	
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	2.14727E-06 g/m²/s (unmitigated)	Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile width + 50% extra for works) '=2.69*0.03*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
	Wend Function		1.78223E-07 g/m²/s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	55.2 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10. April 2005

		Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
Emission Rate	4.46141E-08 g/m <sup>2</sup> /s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100

Appendix 5.2.9 - De	tails of Dust Emission Sources for Tier 2 FSP Assessment a	at Year 2017		
Roadworks Road 6 -	Heavy construction Source ID:	Percentage active area, p	37.4 %	Assume % works area for heavy construction
viaduct (Concept F, Option 3)		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: Q2: 17-RF2x, 17-RF4x, 17-RF9x, 17-RF10x, 17-RF11x, 17-RF17x, 17-RF16x, 17-RF19x, 17-RF21x, 17-RF25x, 17-RF26x, 17-RF29x, 17-RF30x, 17-RF33x, 17-RF35x, 17-RF36x, 17-RF37x	No. of working days per month, d	30 days	Sources Final Report
	Q3: 17-RF2x, 17-RF4x, 17-RF9x, 17-RF10x, 17-RF11x, 17-RF17x, 17-RF16x, 17-RF19x, 17-RF21x, 17-RF25x, 17-RF26x, 17-RF29x, 17-RF30x, 17-RF33x, 17-RF35x, 17-RF36x, 17-RF37x	No. of working hours per day, h	24 hour	
	Q4: 17-RF2x, 17-RF4x, 17-RF9x, 17-RF10x, 17-RF11x, 17-RF17x, 17-RF16x, 17-RF19x, 17-RF21x, 17-RF25x, 17-RF26x, 17-RF29x, 17-RF30x, 17-RF33x, 17-RF35x, 17-RF36x, 17-RF37x	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.45634E-06 g/m²/s (unmitigated)	Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile width + 50% extra for works) '=2.69*0.03*100000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
			1.20876E-07 g/m²/s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	37.4 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	3.02585E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
New APM	Heavy construction Source ID:	Percentage active area, p	2.9 %	Assume % works area for heavy construction
Interchange Station (AIS)		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	01: 02: 03: 17-AIS1x 04:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	Q4:	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	8.9605E-08 g/m²/s (unmitigated) 7.43722E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above) Q1:	Percentage active area, p	2.88 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	2.32717E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
BHS and APM	Heavy construction Source ID:	Percentage active area, p	0.4 %	Assume % works area for heavy construction
tunnel	Q1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: Q3: 17-BAT1, 17-BAT2, 17-NAB4x Q4: 17-BAT1, 17-BAT2, 17-NAB4x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.30303E-08 g/m²/s (unmitigated) 1.08152E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above) Q1:	Percentage active area, p	0.42 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	3.38416E-10 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
T2 Expansion Area	Heavy construction Source ID:	Percentage active area, p	0.1 %	Assume % works area for heavy construction
	Q1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: Q3: 17-T2E-1x, 17-T2E-3, 17-BHS1, 17-BHS2, 17-SAB, 17-NAB1x, 17-NAD1	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4: 17-T2E-1x, 17-T2E-3, 17-AIS1x, 17-EVA5x, 17-EVA7x, 17-EVA9, 17- BHS1, 17-BHS2, 17-SAB, 17-NAB1x, 17-NAD1	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	4.61352E-09 g/m²/s (unmitigated) 3.82922E-10 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.1 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005

				Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.19819E-10 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
T2 Expansion -	Heavy construction	Percentage active area, p	8.0 %	Assume % works area for heavy construction
Emergency Vehicular Access (EVA)	Source ID:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: Q2: Q3: 17-EVA5x, 17-EVA7x, 17-EVA9 Q4:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	U4+.	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	2.4837E-07 g/m²/s (unmitigated) 2.06147E-08 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	8.0 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	6.4505E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100

Other airport	Heavy construction Source ID:	Percentage active area, p	1.4 %	Assume % works area for heavy construction
facilities related works	Q1: 17-ABT1-1x	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 17-ABT1-1x Q3: 17-ABT1-1x Q4: 17-ABT1-1x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	4.36713E-08 g/m²/s (unmitigated) 3.62472E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	1.4 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.1342E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Roadworks	Heavy construction Source ID:	Percentage active area, p	1.4 %	Assume % works area for heavy construction
corresponding to Other airport facilities related	Q1: 17-ABT1-2x	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
works	Q2: 17-ABT1-2x Q3: 17-ABT1-2x Q4: 17-ABT1-2x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	μα+. 17-7×D11-2X	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	5.24056E-07 g/m²/s (unmitigated) 4.34966E-08 g/m²/s (mitigated)	Assume road width equals 12m, therefore multiply emission rate
	Wind Erosion Source ID: (as above)	Percentage active area, p	1.4 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.1342E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100

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Works Area Third Runway Land	Sources Heavy construction	Percentage active area, p	Parameter 15.1 %	Remarks
Formation	Source ID: For 24hrs activities:	, , p		Assume % works area for heavy construction
	Q1: 18-1_02-1x, 18-1_03-1x, 18-1_04x, 18-1_05, 18-1_06-1x, 18-1_08B-			
	2, 18-2_02B-1x, 18-2_02B-2, 18-2_05A, 18-2_05B-1x, 18-2_07A-1x	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q2: 18-1_02-1x, 18-1_05, 18-1_06-1x, 18-2_02B-1x, 18-2_02B-2, 18-			Sources Final Report
		No. of working days per month, d	30 days	
	Q3: 18-1_06-1x, 18-2_01, 18-2_02B-1x, 18-2_02B-2, 18-2_03B, 18- 2_05A, 18-2_05B-1x	No. of working hours not dow h	04 hour	
		No. of working hours per day, h	24 hour	
	Q4: 18-2_01, 18-2_02A, 18-2_02B-1x, 18-2_02B-2, 18-2_03B, 18- 2_05B-1x	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Us
			0.0007 Wg/hotalo/hohar or activity	to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	4.71447E-07 g/m²/s (unmitigated) 3.91301E-08 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*30*h*60*60)*p/100
	For night-time activities:	Percentage active area, p	15.1 <sup>%</sup>	
	Q1: 18-1_09-1, 18-1_09-2, 18-2_04-1x, 18-2_06-2x, 18-2_09-1, 18- 2_09-2, 18-3_02A-2x, 18-3_02A-1	Mitigation efficiency	91.7 %	
	Q2: 18-1_09-1, 18-1_09-2, 18-2_04-1x, 18-2_06-2x, 18-2_09-1, 18-			
		No. of working days per month, d	30 days	
	Q3: 18-2_04-1x, 18-2_06-2x, 18-2_09-1, 18-2_09-2, 18-3_01A-1x, 18- 3_01A-3, 18-3_02A-2x, 18-3_02A-1	No. of working hours per day, h	12 (night) hour	
	Q4: 18-1_09-1, 18-1_09-2, 18-2_09-1, 18-2_09-2, 18-3_02A-2x, 18-			AP42, Section 13.2.3.3
	3_02A-1	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	Thompson G. Pace, USEPA. Examination of the Multiplier Us to Estimate PM2.5 Fugitive Dust Emissions from PM10, April
		Emission Rate	9.42894E-07 g/m <sup>2</sup> /s (unmitigated)	2005 =2.69*0.03*1000000/(10000*30*h*60*60)*p/100
			7.82602E-08 g/m²/s (mitigated)	
	Wind Erosion	Percentage active area, p	15.1 %	
	Source ID: (as above)	r oroontago aotro aroa, p		AP42, Table 11.9-4
		Emission Factor (0.03)	0.0255 Mg/hectare/year	Thompson G. Pace, USEPA. Examination of the Multiplier Us to Estimate PM2.5 Fugitive Dust Emissions from PM10, April
		Emission Bate		2005
		Emission Rate	1.22441E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Third Runway	Wind Erosion			Based on scheme design of definition for sand fill materials
		Percentage active area, p	20.0 %	consisting of coarse materials with size not exceeding 37.5m AP42, Table 11.9-4
Wind Erosion (only)	3	Emission Factor (0.03)	0.0255 Mg/hectare/year	Thompson G. Pace, USEPA. Examination of the Multiplier Us
			elezee ingriteetale, year	to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
	Q2: 1_03-1, 1_03-2, 1_01, 1_04, 2_03B, 2_05B-1, 2_05B-2, 2_07A-1, 2_07A-2, 2_07B	Emission Rate	1.6172E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
	Q3: 1_09-1, 1_09-2, 2_08, 3_02B Q4: 2_04-1, 2_04-2, 2_05A, 2_06-1, 2_06-2, 2_06-3, 2_08, 3_02B			
Third Runway Other Construction	Heavy construction Source ID:	Percentage active area, p	4.1 %	Assume % works area for heavy construction
Works/Facilities on		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
newly formed land	Q1: 18-1_07-1, 18-1_08A-1, 18-1_08B-1, 18-4_04, 18-4_05-1	windgation officiency	011770	Sources Final Report
	Q2: 18-1_07-1, 18-1_07-2, 18-1_08A-1, 18-1_08A-2, 18-1_08B-1, 18-1_08B-2, 18-4_04, 18-4_05-1	No. of working days per month, d	30 days	
	Q3: 18-1_02-1x, 18-1_03-1x, 18-1_04x, 18-1_05, 18-1_07-1, 18-1_07-2, 18-1_08A-1, 18-1_08A-2, 18-1_08A-2, 18-1_08A-2, 18-1_08A-2, 18-2_07A-1x, 18-2_07B, 18-4_04, 18-4_05-1	No. of working hours per day, h	24 hour	
	Q4: 18-1_02-1x, 18-1_03-1x, 18-1_04x, 18-1_05, 18-1_06-1x, 18-1_07- 1, 18-1_07-2, 18-1_08A-1, 18-1_08A-2, 18-1_08B-1, 18-1_08B-2, 18-			AP42, Section 13.2.3.3
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	Thompson G. Pace, USEPA. Examination of the Multiplier Us to Estimate PM2.5 Fugitive Dust Emissions from PM10, April
		Emission Rate	1.27316E-07 g/m <sup>2</sup> /s (unmitigated)	2005 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100
			1.05672E-08 g/m²/s (mitigated)	
	Wind Erosion	Percentage active area, p	4.1 %	
	Source ID: (as above)	с		AP42, Table 11.9-4
		Emission Factor (0.03)	0.0255 Mg/hectare/year	Thompson G. Pace, USEPA. Examination of the Multiplier Us to Estimate PM2.5 Fugitive Dust Emissions from PM10, April
		Emission Rate	3.30658E-09 g/m²/s	2005 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
			Storest an Aurilia	
(Concurrent project)	Heavy construction	Percentage active area, p	44.6 %	Assume % works area for heavy construction
NCD works	Source ID:			Water suppression 12 times a day
	Q1: 18-NCD2-2x, 18-TRD3x, 18-SCCP1, 18-EGC2x, 18-EGC3x	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
		No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4: 18-NCD2-2x, 18-TRD3x, 18-SCCP1, 18-EGC2x, 18-EGC3x			AP42, Section 13.2.3.3
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	Thompson G. Pace, USEPA. Examination of the Multiplier Us to Estimate PM2.5 Fugitive Dust Emissions from PM10, April
		Emission Rate	1.38968E-06 g/m <sup>2</sup> /s (unmitigated)	2005 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100
			1.15343E-07 g/m²/s (mitigated)	
	Wind Erosion	Percentage active area, p	44.6 %	
	Source ID: (as above)	μ		AP42, Table 11.9-4
		Emission Factor (0.03)	0.0255 Mg/hectare/year	Thompson G. Pace, USEPA. Examination of the Multiplier Us to Estimate PM2.5 Fugitive Dust Emissions from PM10, April
		Emission Rate	3.60919E-08 g/m²/s	2005 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100

Midfield	etails of Dust Emission Sources for Tier 2 FSP Assessme	T	09 %	
Midfield development (MD)	Heavy construction Source ID:	Percentage active area, p Mitigation efficiency	0.9 %	Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 18-MD Q2: 18-MD	No. of working days per month, d	30 days	Sources Final Report
	Q3: 18-MD Q4: 18-MD	No. of working hours per day, h	24 hour	AP42. Section 13.2.3.3
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	2.65147E-08 g/m²/s (unmitigated) 2.20072E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.9 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April
		Emission Rate	6.88624E-10 g/m²/s	2005 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
South Cargo Roadworks - at	Heavy construction Source ID:	Percentage active area, p	50.92 %	Assume % works area for heavy construction
grade		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 18-CA1x Q2: 18-CA1x	No. of working days per month, d	30 days	Sources Final Report
	Q3: 18-CA1x Q4: 18-CA1x	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA, Examination of the Multiplier Used
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 Assume road width equals 12m, therefore multiply emission rate
		Emission Rate	1.90259E-05 g/m <sup>2</sup> /s (unmitigated)	by 12m.
			1.57915E-06 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100 * 12
	Wind Erosion Source ID: (as above)	Percentage active area, p	50.92 %	
	Source ID: (as above)	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used
				to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	4.11775E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
South Cargo Roadworks -	Heavy construction Source ID:	Percentage active area, p	50.9 %	Assume % works area for heavy construction
viaduct		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 18-CA3x, 18-CA6x Q2: 18-CA3x, 18-CA6x	No. of working days per month, d	30 days	Sources Final Report
	Q3: 18-CA3x, 18-CA6x Q4: 18-CA3x, 18-CA6x	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.98187E-06 g/m²/s (unmitigated)	Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pil width + 50% extra for works)
			1.64495E-07 g/m²/s (mitigated)	'=2.69*0.03*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
	Wind Erosion Source ID: (as above)	Percentage active area, p	50.9 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April
		Emission Rate	4.11775E-08 g/m²/s	2005 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Roadworks Road 6 -	Heavy construction	Percentage active area, p	34.5 %	
viaduct (Concept F, Option 3)	Source ID: Q1: 18-RF2x, 18-RF4x, 18-RF9x, 18-RF10x, 18-RF11x, 18-RF17x, 18- RF16x, 18-RF19x, 18-RF21x, 18-RF25x, 18-RF26x, 18-RF29x, 18-	Mitigation efficiency	91.7 %	Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	RF30x, 18-RF33x, 18-RF35x, 18-RF36x, 18-RF37x Q2: 18-RF2x, 18-RF4x, 18-RF9x, 18-RF10x, 18-RF11x, 18-RF17x, 18- RF16x, 18-RF19x, 18-RF21x, 18-RF25x, 18-RF26x, 18-RF29x, 18- DF204, 19-RF19x, 18-RF21x, 18-RF26x, 18-RF204, 18-RF20	No. of working days per month, d	30 days	Sources Final Report
	RF30x, 18-RF33x, 18-RF35x, 18-RF36x, 18-RF37x Q3: 18-RF2x, 18-RF4x, 18-RF9x, 18-RF10x, 18-RF11x, 18-RF17x, 18- RF16x, 18-RF19x, 18-RF21x, 18-RF25x, 18-RF26x, 18-RF29x, 18- PF20x, 19 DF20x, 19 DF20x, 19 DF20x	No. of working hours per day, h	24 hour	
	RF30x, 18-RF33x, 18-RF35x, 18-RF36x, 18-RF37x Q4: 18-RF2x, 18-RF4x, 18-RF9x, 18-RF10x, 18-RF11x, 18-RF17x, 18- RF16x, 18-RF19x, 18-RF21x, 18-RF25x, 18-RF26x, 18-RF29x, 18- RF30x, 18-RF33x, 18-RF35x, 18-RF36x, 18-RF37x	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.34416E-06 g/m²/s (unmitigated)	Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pil width + 50% extra for works)
			1.11565E-07 g/m²/s (mitigated)	*=2.69*0.03*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
	Wind Erosion Source ID: (as above)	Percentage active area, p	34.5 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April
		Emission Rate	2.79277E-08 g/m²/s	2005 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
New APM	Heavy construction	Percentage active area, p	14.9 %	Assume % works area for basis assisted
nterchange Station AIS)	Source ID:	Mitigation efficiency	91.7 %	Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: Q2: 18-AIS1x, 18-EVA7x Q2: 19-AIS1x, 18-EVA7x	No. of working days per month, d	30 days	Sources Final Report
	Q3: 18-AIS1x, 18-EVA7x Q4: 18-AIS1x, 18-EVA7x	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used
		Emission Factor (0.03) Emission Rate	0.0807 Mg/hectare/month of activity 4.64534E-07 g/m²/s (unmitigated)	to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100
			3.85563E-08 g/m²/s (mitigated)	
	Wind Erosion	Percentage active area, p	14.92 %	
	Source ID: (as above) Q1:			AP42, Table 11.9-4 Thempson C. Dece, USEDA, Examination of the Multiplier Load
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005

Baggage Hall -	Heavy construction	Percentage active area, p	19.5 %	
Baggage Handling System (BHS)	Source ID:	Mitigation efficiency	91.7 %	Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: Q2: 18-BHS1, 18-BHS2, 18-EVA9	No. of working days per month, d	30 days	Sources Final Report
	Q3: 18-BHS1, 18-BHS2, 18-EVA9 Q4: 18-BHS1, 18-BHS2, 18-EVA9	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	6.06282E-07 g/m²/s (unmitigated) 5.03214E-08 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above) Q1:	Percentage active area, p	19.47 %	AP42. Table 11.9-4
		Emission Factor (0.03)	0.0255 Mg/hectare/year	Thompson G. Pace, USEPA. Examination of the Multiplier User to Estimate PM2.5 Fugitive Dust Emissions from PM10, April
		Emission Rate	1.5746E-08 g/m²/s	2005 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
New APM Depot (NAD)	Heavy construction Source ID:	Percentage active area, p	0.4 %	Assume % works area for heavy construction
		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 18-NAD1, 18-NAD2 Q2: 18-NAD1, 18-NAD2 Q3: 18-NAD1, 18-NAD2 Q3: 18-NAD1, 18-NAD2	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	Q4: 18-NAD1, 18-NAD2	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Use to Estimate PM2.5 Fugitive Dust Emissions from PM10, April
		Emission Rate	1.29094E-08 g/m²/s (unmitigated)	2005 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion		1.07148E-09 g/m²/s (mitigated)	
	Source ID: (as above) Q1: 18-NAD1, 18-NAD2	Percentage active area, p	0.41 %	AP42, Table 11.9-4 Thompson C. Poso LISEDA, Examination of the Multiplier Line
		Emission Factor (0.03)	0.0255 Mg/hectare/year	Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	3.35276E-10 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
BHS and APM tunnel	Heavy construction Source ID:	Percentage active area, p	0.5 %	Assume % works area for heavy construction
	Q1: 18-BAT1, 18-BAT2, 18-NAB4x	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 18-BAT1, 18-BAT2, 18-NAB4x Q3: 18-BAT1, 18-BAT2, 18-NAB4x Q4: 18-BAT1, 18-BAT2, 18-NAB4x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	AP42. Section 13.2.3.3
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	Thompson G. Pace, USEPA. Examination of the Multiplier Use to Estimate PM2.5 Fugitive Dust Emissions from PM10, April
		Emission Rate	1.52021E-08 g/m²/s (unmitigated) 1.26177E-09 g/m²/s (mitigated)	2005 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.49 %	
	Q1: 18-BAT1, 18-BAT2, 18-NAB4x	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Use
		Emission Rate	3.94819E-10 g/m <sup>2</sup> /s	to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
T2 Expansion Area	Heavy construction Source ID:	Percentage active area, p	0.5 %	Assume % works area for heavy construction Water suppression 12 times a day
	Q1: 18-T2E-1x, 18-T2E-3, 18-AIS1x, 18-BHS2 Q2: 18-T2E-3	Mitigation efficiency No. of working days per month, d	91.7 % 30 days	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q3: Q4:	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	Thompson G. Pace, USEPA. Examination of the Multiplier Use to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.65854E-08 g/m²/s (unmitigated) 1.37658E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.5 %	AP42, Table 11.9-4
		Emission Factor (0.03)	0.0255 Mg/hectare/year	Thompson G. Pace, USEPA. Examination of the Multiplier Use to Estimate PM2.5 Fugitive Dust Emissions from PM10, April
		Emission Rate	4.30744E-10 g/m²/s	2005 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
12 Expansion - Car	Heavy construction Source ID:	Percentage active area, p	0.3 %	Assume % works area for heavy construction
Park North (North Annex Building)		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 18-NAB1x, 18-BHS1 Q2: 18-NAB1x Q3:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	Q4:	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Use
		Emission Rate	1.08725E-08 g/m²/s (unmitigated)	to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion		9.02421E-10 g/m <sup>2</sup> /s (mitigated)	
	Source ID: (as above)	Percentage active area, p	0.3 %	AP42, Table 11.9-4
		Emission Factor (0.03)	0.0255 Mg/hectare/year	Thompson G. Pace, USEPA. Examination of the Multiplier Use to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	2.82375E-10 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Γ2 Expansion - _ounge Limo (South	Heavy construction Source ID:	Percentage active area, p	0.5 %	Assume % works area for heavy construction
Annex Building)	Q1: 18-SAB	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 18-SAB Q3:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4:	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Use to Estimate PM2.5 Fugitive Dust Emissions from PM10, April
		Emission Rate	1.42106E-08 g/m <sup>2</sup> /s (unmitigated)	2005 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion	Percentage active area, p	1.17948E-09 g/m²/s (mitigated)	
	Source ID: (as above)			AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Use
		Emission Factor (0.03)	0.0255 Mg/hectare/year	to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
	1	Emission Rate	3.69069E-10 g/m <sup>2</sup> /s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100

Works Area	Sources		Parameter	Remarks
Third Runway Land Formation	Heavy construction Source ID: For 24hrs activities:	Percentage active area, p	9.9 %	Assume % works area for heavy construction
	Q1: 19-2_01, 19-2_02A	N disignation officiance	01.7 %	Water suppression 12 times a day
	Q2: 19-2_01, 19-2_02A, 19-2_05A	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q3: 19-2 01, 19-2 02A, 19-2 02B-1x, 19-2 02B-2, 19-2 05A	No. of working days per month, d	30 days	
	Q4: 19-2_02B-1x, 19-2_02B-2	No. of working hours per day, h	24 hour	
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
		Emission Rate	3.08266E-07 g/m²/s (unmitigated) 2.55861E-08 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*30*h*60*60)*p/100
	For night-time activities:	Percentage active area, p	9.9 %	
	Q1: 19-1_09-1, 19-1_09-2, 19-2_06-2x, 19-3_02A-2x, 19-3_02A-1	Mitigation efficiency	91.7 %	
	Q2: 19-1_09-2, 19-2_04-1x, 19-2_06-2x, 19-2_09-1, 19-3_02A-2x, 19- 3_02A-1	No. of working days per month, d	30 days	
	Q3: 19-2_04-1x, 19-2_06-2x, 19-2_09-1, 19-3_02A-2x, 19-3_02A-1	No. of working hours per day, h	12 (night) hour	
	Q4: 19-2_09-1	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
		Emission Rate	6.16532E-07 g/m²/s (unmitigated) 5.11721E-08 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*30*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	9.9 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Us Estimate PM2.5 Fugitive Dust Emissions from PM10, April 20
		Emission Rate	8.00609E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Third Runway	Wind Erosion	Percentage active area, p	20.0 %	Based on scheme design of definition for sand fill materials
Wind Erosion (only)	Source ID: Q1: 2_02B-1, 2_03A, 2_03B, 2_04-1, 2_04-2, 2_05A, 2_05B-1, 2_05B-2, 2_08, 2_09-1, 2_09-2, 3_02B	Emission Factor (0.03)	0.0255 Mg/hectare/year	consisting of coarse materials with size not exceeding 37.5mn AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Use
	Q2: 2_02B-1, 2_03A, 2_03B, 2_05B-1, 2_05B-2, 3_02B	Emission Rate	1.6172E-08 g/m²/s	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
	Q3: 1_09-2, 3_02B Q4: 3_02A-1, 3_02A-2, 3_02A-3, 3_02B	-		
Third Runway Other Construction	Source ID:	Percentage active area, p	3.8 %	Assume % works area for heavy construction Water suppression 12 times a day
Vorks/Facilities on newly formed land	Q1: 19-1_02-1x, 19-1_03-1x, 19-1_04x, 19-1_05, 19-1_06-1x, 19- 1_07-1, 19-1_08A-1, 19-1_08B-1, 19-2_02B-2, 19-2_07A-1x, 19- 2_07B, 19-3_01A-1x, 19-4_04	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 19-1_02-1x, 19-1_03-1x, 19-1_04x, 19-1_05, 19-1_06-1x, 19- 1_09-1, 19-2_02B-2, 19-2_07A-1x, 19-2_07B, 19-2_08, 19-2_09-2, 19-4_04 Q3: 19-1_02-1x, 19-1_03-1x, 19-1_04x, 19-1_05, 19-1_06-1x, 19-	No. of working days per month, d	30 days	
	1_09-1, 19-2_03B, 19-2_05B-1x, 19-2_07A-1x, 19-2_07B, 19-2_08, 19-2_09-2, 19-4_04	No. of working hours per day, h	24 hour	
	Q4: 19-1_09-1, 19-1_09-2, 19-2_01, 19-2_02A, 19-2_03B, 19-2_04- 1x, 19-2_05A, 19-2_05B-1x, 19-2_06-2x, 19-2_07A-1x, 19-2_07B, 19- 2_08, 19-2_09-2, 19-4_04	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
		Emission Rate	1.18138E-07 g/m²/s (unmitigated) 9.80541E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	3.8 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Use Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
		Emission Rate	3.06819E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
/lidfield levelopment (MD)	Heavy construction Source ID:	Percentage active area, p	2.0 %	Assume % works area for heavy construction
		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 19-MD Q2: 19-MD Q3: 19-MD	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	Q4: 19-MD	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Us

	Emission Rate		Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100
Wind Erosion Source ID: (as above)	Percentage active area, p	2.0 %	
	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
	Emission Rate	1.60699E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100

Appendix 5.2.9- De	tails of Dust Emission Sources for Tier 2 FSP Assess	nent at Year 2019		
South Cargo Roadworks - at	Heavy construction Source ID:	Percentage active area, p	20.69 %	Assume % works area for heavy construction
grade	Q1: 19-CA1x	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q2: 19-CA1x Q3: 19-CA1x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	Q4: 19-CA1x	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	7.73009E-06 g/m <sup>2</sup> /s (unmitigated)	Assume road width equals 12m, therefore multiply emission rate by 12m.
			6.41598E-07 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100 * 12
	Wind Erosion Source ID: (as above)	Percentage active area, p	20.69 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.67301E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
South Cargo Roadworks - viaduct	Heavy construction Source ID:	Percentage active area, p	20.7 %	Assume % works area for heavy construction
		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 19-CA3x, 19-CA6x Q2: 19-CA3x, 19-CA6x Q3: 19-CA3x, 19-CA6x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	Q4: 19-CA3x, 19-CA6x	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	8.05218E-07 g/m²/s (unmitigated)	Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile width + 50% extra for works) '=2.69*0.03*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
			6.68331E-08 g/m <sup>2</sup> /s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	20.7 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.67301E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Roadworks Road 6 - riaduct (Concept F,	Heavy construction Source ID:	Percentage active area, p	14.0 %	Assume % works area for heavy construction
Option 3)	Q1: 19-RF2x, 19-RF4x, 19-RF9x, 19-RF10x, 19-RF11x, 19-RF17x, 19- RF16x, 19-RF19x, 19-RF21x, 19-RF25x, 19-RF26x, 19-RF29x, 19- RF30x, 19-RF33x, 19-RF35x, 19-RF36x, 19-RF37x	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 19-RF2x, 19-RF4x, 19-RF9x, 19-RF10x, 19-RF11x, 19-RF17x, 19- RF16x, 19-RF19x, 19-RF21x, 19-RF25x, 19-RF26x, 19-RF29x, 19- RF30x, 19-RF33x, 19-RF35x, 19-RF36x, 19-RF37x	No. of working days per month, d	30 days	
	Q3: 19-RF2x, 19-RF4x, 19-RF9x, 19-RF10x, 19-RF11x, 19-RF17x, 19- RF16x, 19-RF19x, 19-RF21x, 19-RF25x, 19-RF26x, 19-RF29x, 19- RF30x, 19-RF33x, 19-RF35x, 19-RF36x, 19-RF37x	No. of working hours per day, h	24 hour	
	Q4: 19-RF2x, 19-RF4x, 19-RF9x, 19-RF10x, 19-RF11x, 19-RF17x, 19- RF16x, 19-RF19x, 19-RF21x, 19-RF25x, 19-RF26x, 19-RF29x, 19- RF30x, 19-RF33x, 19-RF35x, 19-RF36x, 19-RF37x	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used t Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	5.46122E-07 g/m²/s (unmitigated)	Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile width + 50% extra for works)
			4.53281E-08 g/m²/s (mitigated)	'=2.69*0.03*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
	Wind Erosion Source ID: (as above)	Percentage active area, p	14.0 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.13468E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
lew APM	Heavy construction Source ID:	Percentage active area, p	7.6 %	Assume % works area for heavy construction
nterchange Station AIS)		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 19-AIS1x, 19-EVA7x Q2: Q3:	No. of working days per month, d	30 days	Sources Final Report
	Q3: Q4:	No. of working hours per day, h Emission Factor (0.03)	24 hour	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used t
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity 2.36908E-07 g/m²/s (unmitigated)	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion		1.96633E-08 g/m²/s (mitigated)	
	Source ID: (as above) Q1: 19-AIS1x, 19-EVA7x	Percentage active area, p	7.61 %	AP42, Table 11.9-4
		Emission Factor (0.03)	0.0255 Mg/hectare/year	Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
	1	Emission Rate	6.15282E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100

Appendix 5.2.9 - De	etails of Dust Emission Sources for Tier 2 FSP Assess	ment at Year 2019		
Baggage Hall -	Heavy construction	Percentage active area, p	19.0 %	Assume % works area for heavy construction
Baggage Handling System (BHS)	Source ID:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 19-BHS1, 19-BHS2, 19-EVA9 Q2: Q3:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	Q4: 19-BHS1, 19-BHS2, 19-EVA9	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	5.93102E-07 g/m <sup>2</sup> /s (unmitigated) 4.92274E-08 g/m <sup>2</sup> /s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above) Q1: 19-BHS1, 19-BHS2, 19-EVA9	Percentage active area, p	19.05 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.54037E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
New APM Depot (NAD)	Heavy construction Source ID:	Percentage active area, p	0.4 %	Assume % works area for heavy construction Water suppression 12 times a day
	Q1: 19-NAD1, 19-NAD2	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 19-NAD1, 19-NAD2 Q3: 19-NAD1, 19-NAD2 Q4: 19-NAD2	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.29094E-08 g/m²/s (unmitigated) 1.07148E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above) Q1: 19-NAD1, 19-NAD2	Percentage active area, p	0.41 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	3.35276E-10 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
BHS and APM	Heavy construction	Percentage active area, p	0.5 %	Assume % works area for heavy construction
tunnel	Source ID: Q1: 19-BAT1, 19-BAT2, 19-NAB4x	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 19-BAT1, 19-BAT2, 19-NAB4x Q3: 19-BAT1, 19-BAT2, 19-NAB4x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4: 19-BAT1	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.52021E-08 g/m²/s (unmitigated) 1.26177E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.49 %	
	Q1: 19-BAT1, 19-BAT2, 19-NAB4x	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	3.94819E-10 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
T2 Expansion Area	Heavy construction Source ID:	Percentage active area, p	3.1 %	Assume % works area for heavy construction
	Q1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: Q3: Q4: 19-AIS1x, 19-EVA7x, 19-NAB1x, 19-NAB4x, 19-BAT2, 19-NAD1	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	9.61359E-08 g/m²/s (unmitigated) 7.97928E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	3.1 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	2.49678E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
	J			

Third Runway Wor				
Works Area	Sources	-	Parameter	Remarks
Third Runway Land Formation	Source ID:	Percentage active area, p	0.1 %	Assume % works area for heavy construction
	For 24hrs activities:			Assume % works area for neavy construction
	Q1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
		Miligation enciency	91.7 %	Sources Final Report
	Q2:	No. of working days per month, d	30 days	
	Q3:	No. of working hours per day, h	24 hour	
	Q4:			AP42, Section 13.2.3.3
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
		Emission Rate	4.64656E-09 g/m <sup>2</sup> /s (unmitigated)	=2.69*0.03*1000000/(10000*30*h*60*60)*p/100
			3.85664E-10 g/m²/s (mitigated)	
	For night-time activities:	Percentage active area, p	0.1 %	
	Q1:	Mitigation efficiency	91.7 %	
	Q2: 20-3_02A-2x, 20-3_02A-1			
	Q3: 20-3_02A-2x, 20-3_02A-1	No. of working days per month, d	30 days	
	Q4:	No. of working hours per day, h	12 (night) hour	
	ut.	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used
				to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
		Emission Rate	9.29311E-09 g/m²/s (unmitigated)	=2.69*0.03*1000000/(10000*30*h*60*60)*p/100
			7.71329E-10 g/m <sup>2</sup> /s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.1 %	
				AP42, Table 11.9-4
		Emission Factor (0.03)	0.0255 Mg/hectare/year	Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
		Emission Rate	1.20678E-10 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
			1.20078E-10 g/11-/S	=0.03 0.03 1000000/(10000 303 24 00 00) p/100
				Description actions of definition for source fill materials
Third Runway	Wind Erosion Source ID:	Percentage active area, p	20.0 %	Based on scheme design of definition for sand fill materials consisting of coarse materials with size not exceeding 37.5mm
Wind Erosion (only)	Q1:2_09-1, 3_02A-1, 3_02A-2, 3_02A-3, 3_02B			AP42, Table 11.9-4
		Emission Factor (0.03)	0.0255 Mg/hectare/year	Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
	Q2: 2_09-1, 3_02B	Emission Rate	1.6172E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
	Q3: 2_09-1, 3_02B Q4: 3_02A-1, 3_02B			
Third Runway Other		Percentage active area, p	4.0 %	Assume % works area for heavy construction
Construction Works/Facilities on	Q1: 20-1_09-1, 20-2_01, 20-2_02A, 20-2_02B-1x, 20-2_02B-2, 20-2_03B,			Water suppression 12 times a day
newly formed land	20-2_05A, 20-2_05B-1x, 20-2_06-2x, 20-2_07A-1x, 20-2_07B, 20-2_08, 20-2_09-2	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	02:20-1_09-1,20-2_01,20-2_02A,20-2_02B-1x,20-2_02B-2,20-2_03B, 20-2_05A,20-2_05B-1x,20-2_06-2x,20-2_07A-1x,20-2_07B,20-2_08,20-	No of working doug not month d		
	2_09-2	no. of working days per month, d	30 days	
	Q3: 20-1_09-1, 20-2_01, 20-2_02A, 20-2_02B-1x, 20-2_02B-2, 20-2_03B, 20-2_05A, 20-2_05B-1x, 20-2_07A-1x, 20-2_07B, 20-2_08, 20-2_09-2	No. of working hours per day, h	24 hour	
	Q4: 20-2_01, 20-2_02A, 20-2_02B-1x, 20-2_02B-2, 20-2_03B, 20-2_05A, 20	•		
	2_05B-1x, 20-2_07A-1x, 20-2_07B, 20-2_09-1, 20-3_02A-2x	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used
				to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
		Emission Rate	1.24822E-07 g/m <sup>2</sup> /s (unmitigated) 1.03602E-08 g/m <sup>2</sup> /s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
			1.03002E-00 g/11-/s (Initigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	4.0 %	
				AP42, Table 11.9-4
		Emission Factor (0.03)	0.0255 Mg/hectare/year	Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
		Emission Rate	3.24179E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Midfield	Heavy construction	Percentage active area, p	1.9 %	Assume % works area for heavy construction
development (MD)	Source ID:			Water suppression 12 times a day
	Q1: 20 MD	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 20-MD Q2: 20-MD	No. of working days per month, d	30 days	Sources Final Report
	Q3: 20-MD Q4: 20-MD	No. of working hours per day, h	24 hour	
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used
			sides ingrisola comonarior activity	to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
		Emission Rate	5.99291E-08 g/m <sup>2</sup> /s (unmitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
			4.97412E-09 g/m <sup>2</sup> /s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	1.9 %	
				AP42, Table 11.9-4
				There are O Deer LICEDA E

•	Source ID. (as above)	0 /1		
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.55644E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100

	tails of Dust Emission Sources for Tier 2 FSP	Assessment at Year 2020		
Western Support	Heavy construction	Percentage active area, p	55.2 %	Assume % works area for heavy construction
Access Road (flyover)	Source ID:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 20-WSA2x, 20-WSA4x Q2: 20-WSA2x, 20-WSA4x Q3: 20-WSA2x, 20-WSA4x Q3: 20-WSA2x, 20-WSA4x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	Q4: 20-WSA2x, 20-WSA4x	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	2.14727E-06 g/m²/s (unmitigated)	Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile width + 50% extra for works) '=2.69*0.03*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
			1.78223E-07 g/m²/s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	55.2 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	4.46141E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Western Support Area Emergency	Heavy construction Source ID:	Percentage active area, p	55.2 %	Assume % works area for heavy construction
Access Road (at grade)	Q1: 20-WSA5x	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 20-WSA5x Q3: 20-WSA5x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4: 20-WSA5x	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	2.06138E-05 g/m <sup>2</sup> /s (unmitigated)	Assume road width equals 12m, therefore multiply emission rate by 12m. =2.69*0.03*1000000/(10000*d*h*60*60)*p/100 * 12
			1.71095E-06 g/m²/s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	55.2 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	4.46141E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
interchange Station	Heavy construction Source ID:	Percentage active area, p	4.3 %	Assume % works area for heavy construction
	Q1: 20-AIS1x, 20-EVA7x	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 20-AIS1x, 20-EVA7x Q3: Q4:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.34139E-07 g/m²/s (unmitigated) 1.11335E-08 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above) Q1: 20-AIS1x, 20-EVA7x	Percentage active area, p	4.31 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	3.48378E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100

Appendix 5.2.9 - Do	etails of Dust Emission Sources for Tier 2 FSP As	sessment at Year 2020		
Baggage Hall -	Heavy construction Source ID:	Percentage active area, p	9.2 %	Assume % works area for heavy construction
Baggage Handling System (BHS)	Q1: 20-BHS1, 20-BHS2, 20-EVA9	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 20-BHS1, 20-BHS2, 20-EVA9 Q3:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4:	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
		Emission Rate	2.87558E-07 g/m²/s (unmitigated) 2.38673E-08 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above) Q1: 20-BHS1, 20-BHS2, 20-EVA9	Percentage active area, p	9.24 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
		Emission Rate	7.46828E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
New APM Depot (NAD)	Heavy construction Source ID:	Percentage active area, p	0.4 %	Assume % works area for heavy construction
	Q1: 20-NAD2	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 20-NAD1, 20-NAD2 Q3: 20-NAD1, 20-NAD2 Q4:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
		Emission Rate	1.29094E-08 g/m <sup>2</sup> /s (unmitigated) 1.07148E-09 g/m <sup>2</sup> /s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above) O1: 20-NAD2	Percentage active area, p	0.41 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
		Emission Rate	3.35276E-10 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
BHS and APM tunnel	Heavy construction Source ID:	Percentage active area, p	0.4 %	Assume % works area for heavy construction
unner	Q1: 20-BAT1	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 20-BAT1, 20-BAT2, 20-NAB4x Q3: Q4:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	ur.	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
		Emission Rate	1.30303E-08 g/m²/s (unmitigated) 1.08152E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above) Q1: 20-BAT1	Percentage active area, p	0.42 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
		Emission Rate	3.38416E-10 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
T2 Expansion Area	Heavy construction Source ID:	Percentage active area, p	0.5 %	Assume % works area for heavy construction
	Q1: 20-NAB1x, 20-NAB4x, 20-BAT2, 20-NAD1	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 20-NAB1x Q3: Q4:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200
		Emission Rate	1.40847E-08 g/m²/s (unmitigated) 1.16903E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Function	Percentage active area, p	0.5 %	
	Wind Erosion Source ID: (as above)			
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10, April 200

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Works Area Third Runway Land	Sources Heavy construction	Percentage active area, p	Parameter 3.4 %	Remarks
Formation	Source ID: For 24hrs activities:			Assume % works area for heavy construction
	Q1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2:	No. of working days per month, d	30 days	
	Q3:	No. of working hours per day, h	24 hour	
	Q4: 21-3_01Bx	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used t
		Emission Rate	1.06915E-07 g/m <sup>2</sup> /s (unmitigated)	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =2.69*0.03*1000000/(10000*30*h*60*60)*p/100
			8.87395E-09 g/m²/s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	3.4 %	AP42. Table 11.9-4
		Emission Factor (0.03)	0.0255 Mg/hectare/year	Thompson G. Pace, USEPA. Examination of the Multiplier Used t Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	2.77673E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
hird Runway	Wind Erosion Source ID:	Percentage active area, p	20.0 %	Based on scheme design of definition for sand fill materials consisting of coarse materials with size not exceeding 37.5mm
Wind Erosion (only)	Q1: 3_02A-1, 3_02B	Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used t
	Q2: 3_02A-1, 3_02B Q3: 3_02A-1, 3_02B	Emission Rate	1.6172E-08 g/m²/s	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Third Runway Other	Q4: 3_02A-1, 3_02B Heavy construction Source ID:	Percentage active area, p	1.3 %	Assume % works area for heavy construction
Construction Norks/Facilities on newly formed land	Source ID: Q1: 21-2_01, 21-2_02A, 21-2_02B-1x, 21-2_02B-2, 21-2_03B, 21- 2_05A, 21-2_05B-1x, 21-2_07A-1x, 21-2_07B, 21-2_09-1, 21-3_02A-	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	2x Q2: 21-2_01, 21-2_02A, 21-2_02B-1x, 21-2_02B-2, 21-2_03B, 21- 2_05A, 21-2_05B-1x, 21-2_07A-1x, 21-2_07B, 21-3_01A-1x, 21-3_01A- 2-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-	No. of working days per month, d	30 days	Sources Final Report
	3, 21-4_01-3x, 21-4_05-1 Q3: 21-2_01, 21-2_02A, 21-2_02B-1x, 21-2_02B-2, 21-2_03B, 21- 2_05A, 21-2_05B-1x, 21-2_07A-1x, 21-2_07B, 21-3_01A-1x, 21-3_01A- C_02, 0, 020, 021, 021, 021, 021, 021, 021	No. of working hours per day, h	24 hour	
	3, 21-3_01Bx, 21-4_01-3x, 21-4_05-1 Q4: 21-2_01, 21-2_02A, 21-2_02B-1x, 21-2_02B-2, 21-2_03B, 21- 2_05A, 21-2_05B-1x, 21-2_07A-1x, 21-2_07B, 21-3_01A-1x, 21-3_01A- 3, 21-4_01-3x, 21-4_03-1x, 21-4_05-1	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used to
		Emission Rate	4.00967E-08 g/m <sup>2</sup> /s (unmitigated) 3.32803E-09 g/m <sup>2</sup> /s (mitigated)	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	1.3 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used t Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.04137E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Airside tunnels (AT)	Heavy construction	Percentage active area, p	0.6 %	
,	Source ID:	Mitigation efficiency	91.7 %	Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: Q2: 21-AT1, 21-AT3 Q2: 4.11, 21 - AT3	No. of working days per month, d	30 days	Sources Final Report
	Q3: 21-AT1, 21-AT3 Q4: 21-AT1, 21-AT2, 21-AT3	No. of working hours per day, h Emission Factor (0.03)	24 hour 0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used t
		Emission Rate	1.9328E-08 g/m²/s (unmitigated)	Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005 =2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion		1.60422E-09 g/m <sup>2</sup> /s (mitigated)	
	Source ID: (as above)	Percentage active area, p	0.6 %	AP42, Table 11.9-4
		Emission Factor (0.03)	0.0255 Mg/hectare/year	Thompson G. Pace, USEPA. Examination of the Multiplier Used t Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	5.01974E-10 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
1idfield evelopment (MD)	Heavy construction Source ID:	Percentage active area, p	0.8 %	Assume % works area for heavy construction Water suppression 12 times a day
	Q1: 21-MD Q2: 21-MD	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 21-MD Q3: 21-MD Q4: 21-MD	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	Thompson G. Pace, USEPA. Examination of the Multiplier Used t Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	2.39763E-08 g/m²/s (unmitigated) 1.99004E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.8 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used t Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005

South Cargo	Heavy construction	Percentage active area, p	8.03 %	Assume % works area for heavy construction
oadworks - at rade	Source ID:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: Q2:	No. of working days per month, d	30 days	Sources Final Report
	Q3: 21-CA1x Q4: 21-CA1x	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	Thompson G. Pace, USEPA. Examination of the Multiplier Used Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	2.99824E-06 g/m <sup>2</sup> /s (unmitigated)	Assume road width equals 12m, therefore multiply emission rate by 12m. =2.69*0.03*1000000/(10000*d*h*60*60)*p/100 * 12
			2.48854E-07 g/m²/s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	8.03 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	6.48903E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
South Cargo Roadworks - viaduct	Heavy construction Source ID:	Percentage active area, p	8.0 %	Assume % works area for heavy construction
	Q1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: Q3: 21-CA3x, 21-CA6x Q4: 21-CA3x, 21-CA6x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	3.12316E-07 g/m <sup>2</sup> /s (unmitigated)	Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pi width + 50% extra for works)
			2.59223E-08 g/m²/s (mitigated)	'=2.69*0.03*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
	Wind Erosion Source ID: (as above)	Percentage active area, p	8.0 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	6.48903E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Roadworks Road 6 - iaduct (Concept F,	Heavy construction Source ID:	Percentage active area, p	5.4 %	Assume % works area for heavy construction
Option 3)	Q1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2:	No. of working days per month, d	30 days	
	Q3: 21-RF2x, 21-RF4x, 21-RF9x, 21-RF10x, 21-RF11x, 21-RF17x, 21- RF16x, 21-RF19x, 21-RF21x, 21-RF25x, 21-RF26x, 21-RF29x, 21- RF30x, 21-RF33x, 21-RF35x, 21-RF36x, 21-RF37x	No. of working hours per day, h	24 hour	
	Q4: 21-RF2x, 21-RF4x, 21-RF9x, 21-RF10x, 21-RF11x, 21-RF17x, 21- RF16x, 21-RF19x, 21-RF21x, 21-RF25x, 21-RF26x, 21-RF29x, 21- RF30x, 21-RF33x, 21-RF35x, 21-RF36x, 21-RF37x	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	2.11822E-07 g/m <sup>2</sup> /s (unmitigated)	Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pi width + 50% extra for works) '=2.69*0.03*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
			1.75812E-08 g/m <sup>2</sup> /s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	5.4 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	4.40104E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100

Works Area	Sources		Parameter	Remarks
	Heavy construction Source ID: For 24hrs activities:	Percentage active area, p	0.6 %	Assume % works area for heavy construction
	Q1: 22-3_02B	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2:	No. of working days per month, d	30 days	
	Q3:	No. of working hours per day, h	24 hour	
	Q4: 22-3_02B	no. or working hours por day, in		
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	1.97483E-08 g/m²/s (unmitigated) 1.63911E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*30*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.6 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	5.12891E-10 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Third Runway	Wind Erosion	Descentance of the		Based on scheme design of definition for sand fill materials
Wind Erosion (only)	Source ID: Q1: 3_02A-1	Percentage active area, p	20.0 %	consisting of coarse materials with size not exceeding 37.5mm AP42, Table 11.9-4
		Emission Factor (0.03)	0.0255 Mg/hectare/year	Thompson G. Pace, USEPA. Examination of the Multiplier Used Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
	Q2: 3_02A-1 Q3: 3_02B Q4:	Emission Rate	1.6172E-08 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Third Runway Other Construction	Heavy construction Source ID:	Percentage active area, p	2.5 %	Assume % works area for heavy construction
Works/Facilities on	U1: 22-2_01, 22-2_02A, 22-2_02B-1x, 22-2_02B-2, 22-2_03B, 22- 2_05A, 22-2_05B-1x, 22-2_07A-1x, 22-2_07B, 22-3_01A-1x, 22-3_01A 3, 22-4_01-3x, 22-4_03-1x, 22-4_05-1	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 22-2_01, 22-2_02A, 22-2_02B-1x, 22-2_02B-2, 22-2_03B, 22- 2_05A, 22-2_05B-1x, 22-2_07A-1x, 22-2_07B, 22-3_01A-3, 22-3_02B, 22-4_03-1x, 22-4_05-1	No. of working days per month, d	30 days	
	Q3: 22-2_01, 22-2_02A, 22-2_02B-1x, 22-2_02B-2, 22-2_03B, 22- 2_05A, 22-2_05B-1x, 22-2_07A-1x, 22-2_07B, 22-3_02A-1, 22-4_05-1		24 hour	
	Q4: 22-2_01, 22-2_02A, 22-2_02B-1x, 22-2_03B, 22-2_05A, 22-2_05B 1x, 22-4_05-1	Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	7.85219E-08 g/m²/s (unmitigated) 6.51732E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	2.5 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	2.03932E-09 g/m²/s	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Airside tunnels (AT)	Heavy construction Source ID:	Percentage active area, p	1.0 %	Assume % works area for heavy construction
	Q1: 22-AT1, 22-AT2, 22-AT3	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 22-AT2, 22-AT3 Q3: 22-AT3 Q4: 22-AT3	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
		Emission Factor (0.03)	0.0807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Thompson G. Pace, USEPA. Examination of the Multiplier Used Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	2.97537E-08 g/m²/s (unmitigated) 2.46956E-09 g/m²/s (mitigated)	=2.69*0.03*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	1.0 %	
		Emission Factor (0.03)	0.0255 Mg/hectare/year	AP42, Table 11.9-4 Thompson G. Pace, USEPA. Examination of the Multiplier Used Estimate PM2.5 Fugitive Dust Emissions from PM10, April 2005
		Emission Rate	7.72744E-10 g/m²/s	=0.85*0.03*100000/(10000*365*24*60*60)*p/100

### Appendix 5.2.9 - Details of Dust Emission Sources for FSP Assessment (Tier 2)

### Barging Points, Crushing Plant, Concrete and Asphalt Batching Plants, C&D Stockpile and other Stockpiles (FSP)

Description Barging Point	Sources Unloading of spoils to barge	Parameter Particle size multiplier, k	0.053	Emission Rate	Remarks For FSP, AP-42, section 13.2.4, 11/06 ed.
ဘေးမှား၊မွ ကပါဂါ[	Unloading of spoils to barge Source ID: TBP1-6	Particle size multiplier, k Moisture content, M		%	Assume as the same as Express Rail Link and Extracted from SP
		Mean wind speed, U		m/s	License of XRL (Appendix C). HKOAMO 2012 annual average wind speed
		Emission Factor, E	6.66E-05		E=k x (0.0016) x ((U/2.2)^1.3/(M/2)^1.4) (AP-42, section 13.2.4, 11/06 ed.)
		No. of operation hour Maximum handling capcity for each barging point	47000	hr Mg/day	26 days per month From engineer
		Emission height	0.5	kg/hr (Asphalt) m	Assume 12 working hours (7:00 - 19:00) per day
		Mitigation efficiency		%	Installation of flexible curtain and shelter with water spray at discharge point
Concrete	Paved haul road outside concrete batching plant -	Emission Rate Particle size multiplier, k Particle size multiplier, k	0.15	g/s (mitigated) g/VKT	AP-42, Section 13.2.1, Table 13.2.1-1, 01/11 ed.
Batching Plant	For Laden Vehicle	Road surface silt loading, sL Average truck weight, W		g/m2 tons	AP-42, Section 13.2.1, Table 13.2.1-3, 01/11 ed. Full loading of Asphalt Tipper, engineering estimate
	Source ID: WAB-HR1 to WAB-HR13		0.5	-	Assumed that unbials will lift dust from the word surface and discourse
	WAB-P4-HR1 to WAB-P4-HR10	Emission height	0.5	m	Assumed that vehicle will lift dust from the road surface and disperse from 0.5m height
	WC-HR1 to WC-HR13 WC-P4-HR1 to WC-P4-HR10	FSP emission factor, E	44	g/VKT	E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.) Asphalt Tipper
	EAB-HR1 to EAB-HR4	No. of truck trips per day	96	trips/hr	From engineer, Asphalt Tipper Lorries in Asphalt Plant
	EAC-HR1 to EAC-HR4 EC-HR1 to EC-HR14	No. of operation hour	140	trips/hr hr	From Engineer, Asphalt Tipper Lorries in Concrete Batching Plant
	EC-P2-HR1 to EC-P2-HR7	% of dust suppression	97.5		Assume as the same as Express Rail Link and Extracted from SP License of XRL (Appendix C).
		Emission Rate	2.90E-05	g/m/s (mitigated)	Asphalt Tipper Lorries in Asphalt Plant
				g/m/s (mitigated)	Asphalt Tipper Lorries in Concrete Batching Plant
Concrete	Paved haul road outside concrete batching plant -	Particle size multiplier, k	0.15	g/VKT	AP-42, Section 13.2.1, Table 13.2.1-1, 01/11 ed.
Batching Plant	For <b>Unladen</b> Vehicle	Road surface silt loading, sL Average truck weight, W		g/m2 tons	AP-42, Section 13.2.1, Table 13.2.1-3, 01/11 ed. Empty loading of Asphalt Tipper, engineering estimate
	Source ID: WAB-HR1 to WAB-HR13	Emission height	0.5	m	Assumed that vehicle will lift dust from the road surface and disperse
	WAB-P4-HR1 to WAB-P4-HR10	FSP emission factor, E			from 0.5m height E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.)
	WC-HR1 to WC-HR13 WC-P4-HR1 to WC-P4-HR10		12	2g/VKT	Asphalt Tipper
	EAB-HR1 to EAB-HR4	No. of truck trips per day		trips/hr	From engineer, Asphalt Tipper Lorries in Asphalt Plant
	EAC-HR1 to EAC-HR4 EC-HR1 to EC-HR14	No. of operation hour		l trips/hr hr v	From Enginner, Asphalt Tipper Lorries in Concrete Batching Plant
	EC-HR1 to EC-P2-HR7	% of dust suppression	97.5	9 %o	Assume as the same as Express Rail Link and Extracted from SP License of XRL (Appendix C).
		Emission Rate	2.65.06	g/m/s (mitigated)	Asphalt Tipper Lorries in Asphalt Plant
Concrete	Unloading aggregate	Consumption Rate (Western + Eastern)	1.20E-05	g/m/s (mitigated) g/m/s (mitigated) Mg/h (Asphalt)	Asphalt Tipper Lorries in Concrete Batching Plant From engineer: Asphalt: 300 ton/hr = 150 ton/hr x 2 plants
Batching Plant Unloading of raw	Source ID: (EP9)	Consumption Rate (Western only)	2000	Mg/h (Concrete) Mg/h (Asphalt)	From engineer: Concrete: 2000 ton/hr = 500 ton/hr x4 plants From engineer: Asphalt: 150 ton/hr
naterials)	WAB-EP9, WAB-P4-EP9, WC-EP9, WC-P4-EP9	Particle size multiplier, k		Mg/h (Concrete)	From engineer: Concrete: 500 ton/hr For FSP, AP-42, section 13.2.4, 11/06 ed.
	EAB-EP9.	Moisture content, M		%	Assume as the same as Express Rail Link and Extracted from SP License of XRL (Appendix C).
	EC-EP9, EC-2-EP9, EC-3-EP9, EC-P2-EP9	Mean wind speed, U Emission Factor, E	4.9 2.40E-04	m/s ka/Ma	HKOAMO 2012 annual average wind speed E=k x (0.0016) x ((U/2.2)^1.3/(M/2)^1.4)
				kg/hr (Asphalt - Westen + Eastern)	(AP-42, section 13.2.4, 11/06 ed.)
			0.48	kg/hr (Concrete - Western + Eastern) kg/hr (Asphalt - Western only)	
		Mitigation efficiency	0.12	kg/hr (Concrete - Western only)	Assume as the same as Express Rail Link and Extracted from SP
		No. of operation hour	12	hr	License of XRL (Appendix C).
		Emission height Emission Rate (Western + Eastern) - Period 2 to 4	4 1.00E-04	m g/s (mitigated) (Asphalt)	For each plant (150 ton/hr)
					Period 2 to 4: 150 ton/hr x 2 plants
			3.34E-04	g/s (mitigated) (Concrete)	For each plant (500ton/hr) Period 2: 500ton/hr x 2 plants
					Period 3&4: 500ton/hr x 4 plants
		Emission Rate (Western only) - Period 1		g/s (mitigated) (Asphalt) g/s (mitigated) (Concrete)	For 150 ton/hr only For 500 ton/hr only
Concrete Batching Plant	Small Cementitious Material Silos Source ID: (EP5-EP8)	Density	2.24	Mg/m3	For Concrete & Asphalt density Refer to this web
(Cement / PFA Silos)	WAB-EP5 to EP8, WAB-P4-EP5 to EP8,				"http://www.aqua-calc.com/page/density-table/substance/concrete-con and-blank-asphalt"
	WC-EP5 to EP8, WC-P4-EP5 to EP8	FSP emission factor (0.14)	7	mg/m3	Concretration limit, Annex I, A Guidance Note on the Best Praticable Means for Cement Works (Concrete Batching Plant), EPD
	EAB-EP5 to EP8, EC-EP5 to EP8, EC-2-EP5 to EP8, EC-3-EP5 to EP8,	Dust exhaust flow rate for each mixer (Total 4 sources)		tons/hr (Asphalt)	Assume volume displacement by loading material
	EC-P2-EP5 to EP8		26.8	tons/hr (Concrete) m3/hr (Asphalt)	For concrete & Asphalt density: 2.24 tons/m3
		No. of operation hour	535.7 12	m3/hr (Concrete) hr	
		No. of small cement silos	4		Assume as the same as Express Rail Link and Extracted from SP License of XRL (Appendix C).
		Emission height	21 or 22	m	EP5: 21m, EP6-EP8: 22m Assume as the same as Express Rail Link and Extracted from SP
		Emission Rate (Total 4 sources)		g/s (mitigated) (Asphalt)	License of XRL (Appendix C).
		Emission Rate (Each source)	1.30E-05	g/s (mitigated) (Concrete) g/s (mitigated) (Asphalt)	
	PFA weight Hopper	Emission Factor (without mitigation)	2.60E-04 2.60E-03	g/s (mitigated) (Concrete) kg/Mg	Weight hopper loading (uncontrolled), AP-42, section 11.12-4, Table
	Source ID: (EP3-EP4) WAB-EP3 to EP4. WAB-P4-EP3 to EP4.	Density	2.24	Mg/m3	11.12-1, 6/06 ed. For Concrete & Asphalt density Refer to this web
	WAB-EP3 to EP4, WAB-P4-EP3 to EP4, WC-EP3 to EP4, WC-P4-EP3 to EP4				Heter to this web "http://www.aqua-calc.com/page/density-table/substance/concrete-co and-blank-asphalt"
	EAB-EP3 to EP4, EC-EP3 to EP4, EC-2-EP3 to EP4, EC-3-EP3 to EP4,	Emission factor Production rate (Total 2 sources)	5.82E-03	kg/m3 m3/hr (Asphalt)	ano-blank-aspnair From engineer
	EC-EP3 to EP4, EC-2-EP3 to EP4, EC-3-EP3 to EP4, EC-P2-EP3 to EP4	Mitigation efficiency	429	m3/hr (Concrete) %	Total enclosure and fabric filter
		Emission Rate (Total 2 sources)	13	m g/s (mitigated) (Asphalt)	
Concrete	Mixer Source ID: (EP1-EP2)	Density	6.94E-03	g/s (mitigated) (Concrete) g/s (mitigated) (Concrete) Mg/m3	For Concrete & Asphalt density
Batching Plant Mixing Tower)	WAB-EP1 to EP2, WAB-P4-EP1 to EP2,		2.27		Refer to this web "http://www.aqua-calc.com/page/density-table/substance/concrete-co
J	WC-EP1 to EP2, WC-P4-EP1 to EP2	FSP emission factor (0.14)	7	mg/m3	and-blank-asphalt" Concretration limit, Annex I, A Guidance Note on the Best Praticable
	EAB-EP1 to EP2, EC-EP1 to EP2, EC-2-EP1 to EP2, EC-3-EP1 to EP2,		,		Means for Cement Works (Concrete Batching Plant), EPD
	EC-P2-EP1 to EP2	Dust exhaust flow rate for each mixer (Total 2 sources)	1200	tons/hr (Asphalt) tons/hr (Concrete)	Assume volume displacement by loading material
			26.8 535.7	m3/hr (Asphalt) m3/hr (Concrete)	For concrete & Asphalt density: 2.24 tons/m3
		No. of operation hour No. of small cement silos		hr	
	1	Emission height	13	m	
		Emission Rate (Total 2 sources)		g/s (mitigated) (Asphalt)	

### Appendix 5.2.9 - Details of Dust Emission Sources for FSP Assessment (Tier 2)

### Barging Points, Crushing Plant, Concrete and Asphalt Batching Plants, C&D Stockpile and other Stockpiles (FSP)

tockpile within sphalt batching	Material handling and storage piles Source ID:	Percentage open stockpile area, p	20	%	80% stockpiling area is covered by impervious sheets and all dusty material should be sprayed with water immediately prior to any loading
Isphalt batching lant in western ocation	Source ID: WABA1, WABA1-P4 WABA2, WABA2-P4	Particle size multiplier, k Moisture content, M		%	or transfer operation so as to keep the dusty material wet. k (particle size < 30µm) Assume worst case scenario
		Average wind speed, U		m/s	HKOAMO 2012 annual average wind speed
		Emission Factor, E Monthly output	6.65864E-05 335	kg/Mg m3/month (Asphalt)	E=k*0.0016*[(U/2.2)^1.3/(M/2)^1.4] From engineer
				m3/month (Aggregate)	From engineer
		Maximum hourly output, op		m3/month (Aggregate) m3/hr (Asphalt)	rrom engineer 26 days per month, 12 working hours per day
			16.8	m3/nr (Aspnait) m3/hr (Aggregate) Mg/hr (Asphalt)	
			42.1	Mg/hr (Aggregate)	Assume capacity of dump truck is 6m <sup>3</sup> and 15 tons
		Area of the Asphalt stockpile, A Area of the Aggregate stockpile, A	2,200	m <sup>2</sup> (Asphalt) m <sup>2</sup> (Aggregate)	
		Emission Rate (Asphalt stockpile)	2.12177E-07 4.24354E-08	g/m²/s (unmitigated) g/m²/s (mitigated)	Unmitigated Emission Rate=E*1000*op/(A*60*60) Mitigated Emission Rate'=E*1000*op/(A*60*60)*p/100
		Emission Rate (Aggregate stockpile)	3.53766E-07 7.07531E-08	g/m²/s (unmitigated) g/m²/s (mitigated)	
	Wind erosion Source ID: As above	Percentage open stockpile area, p	100	% (unmitigated) % (mitigated)	80% stockpiling area is covered by impervious sheets
		Emission Factor (0.03) Emission Rate	0.0255	Mg/hectare/year g/m²/s (unmitigated)	AP42, Section 11.9.4 =0.85*0.03*100000/(10000*365*24*60*60)*p/100
			1.6172E-08	g/m²/s (mitigated)	
/lilled Material, Crushed	Material handling and storage piles Source ID:	Percentage open stockpile area, p	20	%	80% stockpiling area is covered by impervious sheets and all dusty material should be sprayed with water immediately prior to any loading
Aggregate and Sub-base	WAR1, WAR1-P4	Particle size multiplier, k	0.053		or transfer operation so as to keep the dusty material wet. k (particle size < 30µm)
Stockpile in vestern location	WCAS1, WCAS1-P4	Moisture content, M Average wind speed, U	5	% m/s	Assume worst case scenario HKOAMO 2012 annual average wind speed
	WSS1, WSS1-P4	Emission Factor, E	6.65864E-05		ů i
		Emission Factor, E Monthly output	422	m3/month (Milled Material)	E=k*0.0016*[(U/2.2)^1.3/(M/2)^1.4] From engineer From engineer
		Mandamara barrada di di	16,275	m3/month (Crushed Aggregate) m3/month (Sub-base stockpile)	From engineer From engineer
		Maximum hourly output, op	48.7	m3/hr (Milled Material) m3/hr (Crushed Aggregate)	26 days per month, 12 working hours per day
			3.4	m3/hr (Sub-base stockpile) Mg/hr (Milled Material)	Assume capacity of dump truck is 6m <sup>3</sup> and 15 tons
			121.6	Mg/hr (Crushed Aggregate) Mg/hr (Sub-base stockpile)	
		Area of the Milled Material stockpile, A	279	m <sup>2</sup> (Milled Material)	
		Area of the Crushed Aggregate stockpile, A Area of the Sub-base stockpile, A	6,209	m <sup>2</sup> (Crushed Aggregate) m <sup>2</sup> (Sub-base stockpile)	
		Emission Rate (Milled Material stockpile)	2.24376E-07 4.48752E-08	g/m²/s (unmitigated) g/m²/s (mitigated)	Unmitigated Emission Rate=E*1000*op/(A*60*60) Mitigated Emission Rate'=E*1000*op/(A*60*60)*p/100
		Emission Rate (Crushed Aggregate stockpile)	3.86492E-07	g/m²/s (unmitigated) g/m²/s (mitigated)	
		Emission Rate (Sub-base stockpile)	3.88446E-07	g/m²/s (unmitigated) g/m²/s (unmitigated) g/m²/s (mitigated)	
	Wind erosion	Percentage open stockpile area, p	100	% (unmitigated)	909/ stackpiling area in asymptotic the importance that
	Source ID: As above	Emission Factor (0.03)	0.0255	% (mitigated) Mg/hectare/year	80% stockpiling area is covered by impervious sheets AP42, Section 11.9.4
		Emission Rate		g/m²/s (unmitigated) g/m²/s (mitigated)	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
tockpile within	Material handling and storage piles	Percentage open stockpile area, p	20	%	80% stockpiling area is covered by impervious sheets and all dusty
sphalt batching lant in eastern	Source ID: EABA1, EABA2				material should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet.
ocation		Particle size multiplier, k Moisture content, M	0.053 5	%	k (particle size < 30µm) Assume worst case scenario
		Average wind speed, U		m/s	HKOAMO 2012 annual average wind speed
		Emission Factor, E Monthly output	6.65864E-05 67	kg/Mg m3/month (Asphalt)	E=k*0.0016*[(U/2.2)^1.3/(M/2)^1.4] From engineer
		Movinsian benefit automation		m3/month (Aggregate)	From engineer
		Maximum hourly output, op	3.4	m3/hr (Asphalt) m3/hr (Aggregate)	26 days per month, 12 working hours per day
				Mg/hr (Asphalt) Mg/hr (Aggregate)	Assume capacity of dump truck is 6m <sup>3</sup> and 15 tons
		Area of the Asphalt stockpile, A Area of the Aggregate stockpile, A	154	m <sup>2</sup> (Asphalt)	
		Emission Rate (Asphalt stockpile)	6.46124E-08	m <sup>2</sup> (Aggregate) g/m <sup>2</sup> /s (unmitigated)	Unmitigated Emission Rate=E*1000*op/(A*60*60)
		Emission Rate (Aggregate stockpile)	2.77069E-07	g/m²/s (mitigated) g/m²/s (unmitigated)	Mitigated Emission Rate'=E*1000*op/(A*60*60)*p/100
	Wind erosion	Percentage open stockpile area, p	5.54139E-08 100	g/m²/s (mitigated) % (unmitigated)	
	Source ID: As above	Emission Factor (0.03)	20	% (mitigated) Mg/hectare/year	80% stockpiling area is covered by impervious sheets AP42, Section 11.9.4
		Emission Rate	8.086E-08	g/m²/s (unmitigated) g/m²/s (mitigated)	=0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Stockpile within	Material handling and storage piles	Percentage open stockpile area, p		9/11/9 (11/19/2004) 1 %	80% stockpiling area is covered by impervious sheets and all dusty
Airfield batching	Source ID:	r elcentage open stockpile alea, p	20	/0	material should be sprayed with water immediately prior to any loading
lant in eastern ocation	EACC1, EACA1	Particle size multiplier, k	0.053		or transfer operation so as to keep the dusty material wet. k (particle size < 30µm)
		Moisture content, M Average wind speed, U	5 4.9	% m/s	Assume worst case scenario HKOAMO 2012 annual average wind speed
		Emission Factor, E	6.65864E-05		E=k*0.0016*[(U/2.2)^1.3/(M/2)^1.4]
		Monthly output		m3/month (Cement)	From engineer
			13,824	m3/month (Aggregate)	From engineer
		Maximum hourly output, op		m3/hr (Cement)	26 days per month, 12 working hours per day
			20.3	Mg/hr (Aggregate) Mg/hr (Cement)	Assume capacity of dump truck is 6m <sup>3</sup> and 15 tons
		Area of the Cement stockpile, A		Mg/hr (Aggregate) m <sup>2</sup> (Cement)	
		Area of the Aggregate stockpile, A Emission Rate (Cement stockpile)	5,329	m²(Aggregate) ' g/m²/s (unmitigated)	Unmitigated Emission Rate=E*1000*op/(A*60*60)
			6.47373E-08	g/m <sup>2</sup> /s (mitigated)	Mitigated Emission Rate=E*1000*op/(A*60*60)*p/100 Mitigated Emission Rate'=E*1000*op/(A*60*60)*p/100
	Wind procine	Emission Rate (Aggregate stockpile)	7.68914E-08	g/m²/s (unmitigated) g/m²/s (mitigated)	
	Wind erosion Source ID: As above	Percentage open stockpile area, p	20	% (unmitigated) % (mitigated)	80% stockpiling area is covered by impervious sheets
		Emission Factor (0.03) Emission Rate	8.086E-08	Mg/hectare/year g/m²/s (unmitigated)	AP42, Section 11.9.4 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
			1.6172E-08	g/m²/s (mitigated)	
Stockpile within Concrete	Material handling and storage piles Source ID:	Percentage open stockpile area, p	20	%	80% stockpiling area is covered by impervious sheets and all dusty material should be sprayed with water immediately prior to any loadin
	ECC1_2, ECC1_3, ECC1-P2	Particle size multiplier, k	0.053		or transfer operation so as to keep the dusty material wet. k (particle size < 30µm)
	ECA1_2, ECA1_3, ECA1-P2	Moisture content, M	5	% m/s	Assume worst case scenario HKOAMO 2012 annual average wind speed
		Average wind speed, U			ů i
		Emission Factor, E Monthly output	6.65864E-05 43,270	kg/Mg m3/month (Cement)	E=k*0.0016*[(U/2.2)^1.3/(M/2)^1.4] From engineer
				m3/month (Aggregate)	From engineer
		Maximum hourly output, op	138.7	m3/hr (Cement) m3/hr (Aggregate)	26 days per month, 12 working hours per day
			346.7	Mg/hr (Cement)	Assume capacity of dump truck is 6m <sup>3</sup> and 15 tons
		Area of the Cement stockpile, A	3,944	Mg/hr (Aggregate) m2 (Cement)	
		Area of the Aggregate stockpile, A Emission Rate (Cement stockpile)		m2(Aggregate) g/m²/s (unmitigated)	Unmitigated Emission Rate=E*1000*op/(A*60*60)
					Mitigated Emission Rate'=E*1000*op/(A*60*60)*p/100
		Emission Rate (Aggregate stockpile)	3.25209E-07 1.7666E-06		
	Wind erosion	Emission Rate (Aggregate stockpile)	1.7666E-06 3.5332E-07	g/m <sup>2</sup> /s (unmitigated) g/m <sup>2</sup> /s (mitigated)	
	Wind erosion Source ID: As above		1.7666E-06 <u>3.5332E-07</u> 100 20	g/m²/s (unmitigated)	80% stockpiling area is covered by impervious sheets AP42, Section 11.9.4

### Barging Points, Crushing Plant, Concrete and Asphalt Batching Plants, C&D Stockpile and other Stockpiles (FSP)

Description	Sources	Parameter		Emission Rate	Remarks
Crushed Aggregate	Material handling and storage piles Source ID:	Percentage open stockpile area, p	20	70	80% stockpiling area is covered by impervious sheets and all dusty material should be sprayed with water immediately prior to any loading
Stockpile in eastern location	ECA2, ECA2-P2	Particle size multiplier, k Moisture content, M Average wind speed, U	0.053 5 4 9	% m/s	or transfer operation so as to keep the dusty material wet. k (particle size < 30µm) Assume worst case scenario HKOAMO 2012 annual average wind speed
		Average wind speed, U Emission Factor, E Monthly output	6.65864E-05		HKOAMO 2012 annual average wind speed E=k*0.0016*[(U/2.2)^1.3/(M/2)^1.4] From engineer
		Maximum hourly output, op	14.0	m3/hr	26 days per month, 12 working hours per day
		Area of the stockpile, A Emission Rate	1,866 3.46531E-07	g/m²/s (unmitigated)	Assume capacity of dump truck is 6m <sup>3</sup> and 15 tons Unmitigated Emission Rate=E*1000*op/(A*60*60)
	Wind erosion Source ID: As above	Percentage open stockpile area, p	100	g/m²/s (mitigated) % (unmitigated) % (mitigated)	Mitigated Emission Rate'=E*1000*op/(A*60*60)*p/100 80% stockpiling area is covered by impervious sheets
		Emission Factor (0.03) Emission Rate	0.0255 8.086E-08	Mg/hectare/year g/m²/s (unmitigated) g/m²/s (mitigated)	AP42, Section 11.9.4 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
C&D Stockpile near seawall	Material handling and storage piles Source ID: CD1	Percentage open stockpile area, p Particle size multiplier, k	0.053		80% stockpiling area is covered by impervious sheets and all dusty material should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet. k (particle size < 30µm) Assume worst case scenario
		Moisture content, M Average wind speed, U		% m/s	HKOAMO 2012 annual average wind speed
		Emission Factor, E Monthly output		m3/month	E=k*0.0016*[(U/2.2)^1.3/(M/2)^1.4] From engineer
		Maximum hourly output, op Area of the stockpile, A		m3/hr Mg/hr m2	26 days per month, 12 working hours per day Density of C&D material: 2Mg/m3 (from engineer)
	Wind erosion	Emission Rate Percentage open stockpile area, p	3.54683E-08 7.09366E-09	g/m²/s (unmitigated) g/m²/s (mitigated) % (unmitigated)	Unmitigated Emission Rate=E*1000*op/(A*60*60) Mitigated Emission Rate'=E*1000*op/(A*60*60)*p/100
	Source ID: As above	Emission Factor (0.03) Emission Rate	20 0.0255 8.086E-08	% (mitigated) % (mitigated) Mg/hectare/year g/m²/s (unmitigated) g/m²/s (mitigated)	80% stockpiling area is covered by impervious sheets AP42, Section 11.9.4 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
C&D Stockpile at	Material handling and storage piles	Percentage open stockpile area, p	20		80% stockpiling area is covered by impervious sheets and all dusty
midfield	Source ID: CD2, CD3	Particle size multiplier, k Moisture content, M Average wind speed, U		% m/s	material should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet. k (particle size < 30µm) Assume worst case scenario HKOAMO 2012 annual average wind speed
		Emission Factor, E Monthly output	6.65864E-05		E=k*0.0016*[(U/2.2)^1.3/(M/2)^1.4] From engineer
		Maximum hourly output, op		m3/hr Mg/hr	26 days per month, 12 working hours per day Density of C&D material: 2Mg/m3 (from engineer)
		Area of the stockpile, A Emission Rate		m2 g/m²/s (unmitigated) g/m²/s (mitigated)	Unmitigated Emission Rate=E*1000*op/(A*60*60) Mitigated Emission Rate=E*1000*op/(A*60*60)*p/100
	Wind erosion Source ID: As above	Percentage open stockpile area, p	100 20	% (unmitigated) % (mitigated)	80% stockpiling area is covered by impervious sheets
		Emission Factor (0.03) Emission Rate	8.086E-08	Mg/hectare/year g/m²/s (unmitigated) g/m²/s (mitigated)	AP42, Section 11.9.4 =0.85*0.03*1000000/(10000*365*24*60*60)*p/100
Crushing Plant	Screening Source ID: CP1, CP2	FSP emission factor (0.03) Density of rock		mg/m3 Kg/m3	Concretration limit, Annex I, A Guidance Note on the Best Praticable Means for Mineral Works (Stone Crushing Plants), EPD Assume the same as approved EIA South East New Territories (SENT)
		Maximum handling capcity		Mg/hr	Landfill Extension (EIA-143/2007) Annex A2 From engineer
		No. of operation hour Emission height Emission Rate	12 15 1.66E-04	nr m g/s (mitigated)	
Crushing Plant	Tertiary Crushing Source ID: CP1, CP2	FSP emission factor (0.03) Density of rock		mg/m3 Kg/m3	Concretration limit, Annex I, A Guidance Note on the Best Praticable Means for Mineral Works (Stone Crushing Plants), EPD Assume the same as approved EIA South East New Territories (SENT)
		Maximum handling capcity		Mg/hr	Landfill Extension (EIA-143/2007) Annex A2 From engineer
		No. of operation hour Emission height Emission Rate	15 1.66E-04	hr m g/s (mitigated)	
Crushing Plant	Paved haul road outside crushing plant - For Laden Vehicle	Particle size multiplier, k Road surface silt loading, sL Average truck weight, W	12	g/VKT g/m2 tons	AP-42, Section 13.2.1, Table 13.2.1-1, 01/11 ed. AP-42, Section 13.2.1, Table 13.2.1-3, 01/11 ed. Full loading of truck, assume the same as Asphalt Tipper, engineering
	Source ID: WAB-HR1 to WAB-HR13				estimate
	WC-HR1 to WC-HR13	Emission height FSP emission factor, E	0.5		Assumed that vehicle will lift dust from the road surface and disperse from 0.5m height E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.)
		No. of truck trips per day		g/VKT trips/hr	Truck From engineer:
		No. of operation hour	12		700Mg/hr * (1/(6m3/veh)) * (1/1760 kg/m3) * 1000 Assume density = 1760kg/m3, truck loading = 6m3/veh
		% of dust suppression Emission Rate	97.5 2.00E-05	% g/m/s (mitigated)	Assume as the same as Express Rail Link and Extracted from SP License of XRL (Appendix C). Truck for crushing plant
Crushing Plant	Paved haul road outside crushing plant - For <b>Unladen</b> Vehicle	Particle size multiplier, k Road surface silt loading, sL Average truck weight, W	12	g/VKT g/m2 tons	AP-42, Section 13.2.1, Table 13.2.1-1, 01/11 ed. AP-42, Section 13.2.1, Table 13.2.1-3, 01/11 ed. Empty loading of truck, assume the same as Asphalt Tipper, engineeri
	Source ID:				estimate
	WAB-HR1 to WAB-HR13 WC-HR1 to WC-HR13	Emission height FSP emission factor, E	0.5	m g/VKT	Assumed that vehicle will lift dust from the road surface and disperse from 0.5m height E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.) Truck
		No. of truck trips per day	66	trips/hr	From engineer: 700Mg/hr * (1/(6m3/veh)) * (1/1760 kg/m3) * 1000 Assume density = 1760kg/m3, truck loading = 6m3/veh
		No. of operation hour % of dust suppression	12 97.5		Assume as the same as Express Rail Link and Extracted from SP License of XRL (Appendix C).

### Floating Concrete Batching Plant

Description	Sources	Parameter		Emission Rate	Remarks
	Unloading aggregate	Consumption Rate		Mg/h (Concrete)	From engineer: Concrete: 39.6 ton/hr = 1900 ton / (2 days * 24 h)
Batching Plant Unloading of raw	Source ID:	Aggregate tank capacity Refill frequency		tons days	From engineer From engineer
	F-EP1		-	days	
,		Particle size multiplier, k	0.053		For FSP, AP-42, section 13.2.4, 11/06 ed.
		Moisture content, M		%	Assume as the same as land-based CBP
		Mean wind speed, U Emission Factor, E	4.9 2.40E-04	m/s	HKOAMO 2012 annual average wind speed E=k x (0.0016) x ((U/2.2)^1.3/(M/2)^1.4)
			2.402-04	Kg/Wg	(AP-42, section 13.2.4, 11/06 ed.)
					( , , ,
			0.01	kg/hr (Concrete)	
		Mitigation efficiency	99	%	Fully covered and handling with water spraying system (From engine
		No. of operation hours Emission height		hr m	Assume worst case From engineer
		Emission Rate		g/s (mitigated) (Concrete)	
loating Concrete atching Plant	Source ID:	Density	2.24	Mg/m3	For Concrete density, refer to this website "http://www.aqua-calc.com/page/density-table/substance/concrete-co
Cement / PFA /	Source ID.				and-blank-asphalt"
CSF Silos)	F-EP2	FSP emission factor (0.14)	7	mg/m3	Concretration limit, Annex I, A Guidance Note on the Best Praticable
					Means for Cement Works (Concrete Batching Plant), EPD
		Cement silo capacity (Each silo)	110	tons	From engineer
		Refill frequency		days	From engineer
		Dust exhaust flow rate (Total 4 silos)	7.33	tons/hr (Concrete)	From engineer: 7.33 ton/hr = 4 silos * (110 ton / (2.5 days * 24 h))
			3.3	m3/hr (Concrete)	For concrete density: 2.24 tons/m3
		No. of operation hours	24	hr	Assume worst case
		No. of small cement silos	4		From engineer
		Emission height		m	From engineer
		Emission Rate (Total 4 silos)	6.37E-06	g/s (mitigated) (Concrete)	
	PFA Silos	Density	2.24	Mg/m3	For Concrete density, refer to this website
	Source ID:				"http://www.aqua-calc.com/page/density-table/substance/concrete-c and-blank-asphalt"
	F-EP3	FSP emission factor (0.14)	7	mg/m3	Concretration limit, Annex I, A Guidance Note on the Best Praticable
		· ,		-	Means for Cement Works (Concrete Batching Plant), EPD
		PFA silo capacity (Each silo)	00	tons	From engineer
		Refill frequency		days	From engineer
		Dust exhaust flow rate (Total 2 silos)		tons/hr (Concrete)	From engineer: 3.75 ton/hr = 2 silos * (90 ton / (2 days * 24 h))
			1.7	m3/hr (Concrete)	For concrete density: 2.24 tons/m3
		No. of operation hours	24	hr	Assume worst case
		No. of PFA silos	24		From engineer
		Emission height		m	From engineer
		Emission Rate (Total 2 silos)	3.26E-06	g/s (mitigated) (Concrete)	
	CSF Silos	Density	2.24	Mg/m3	For Concrete density, refer to this website
	Source ID:				"http://www.aqua-calc.com/page/density-table/substance/concrete-c and-blank-asphalt"
	F-EP4	FSP emission factor (0.14)	7	mg/m3	Concretration limit, Annex I, A Guidance Note on the Best Praticable
				ő	Means for Cement Works (Concrete Batching Plant), EPD
		CRE aile appagity (Each aile)		tono	From anginear
		CSF silo capacity (Each silo) Refill frequency		tons days	From engineer From engineer
		Dust exhaust flow rate (Total 2 silos)	0.50	tons/hr (Concrete)	From engineer: 0.5 ton/hr = 2 silos * (30 ton / (5 days * 24 h))
				m3/hr (Concrete)	For concrete density: 2.24 tons/m3
		No. of operation hours	04	hr	Assume worst case
		No. of CSF silos	24	[ <sup>**</sup>	From engineer
		Emission height	10		From engineer
		Emission Rate (Total 2 silos)	4.34E-07	g/s (mitigated) (Concrete)	
loating Concrete		Density	2.24	Mg/m3	For Concrete density, refer to this website
Batching Plant Mixing Tower)	Source ID:				"http://www.aqua-calc.com/page/density-table/substance/concrete-c and-blank-asphalt"
	F-EP5	FSP emission factor (0.14)	7	mg/m3	Concretration limit, Annex I, A Guidance Note on the Best Praticable
					Means for Cement Works (Concrete Batching Plant), EPD
		Dust exhaust flow rate (Total 2 mixers)	560	tons/hr (Concrete)	From engineer: 280 ton/hr * 2 mixers
				. ,	
			250.0	m3/hr (Concrete)	For concrete density: 2.24 tons/m3
		No. of operation hours	24	hr	Assume worst case
		No. of mixers	2		From engineer
			-		÷
		Emission height Emission Rate (Total 2 mixers)		m g/s (mitigated) (Concrete)	From engineer

Third Runway Work	Areas			
Works Area Submarine pipeline	Sources Heavy construction	Percentage active area, p	Parameter 30.0 %	Remarks
	Q1:	Mitigation efficiency	91.7 %	Assume % works area for heavy construction Water suppression 12 times a day
Submarine cable	Q2: Q3: 15-S1, 15-S3x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
	Q4: 15-S1, 15-S3x	Emission Rate	9.34028E-06 g/m²/s (unmitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
			7.75243E-07 g/m <sup>2</sup> /s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	30 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	2.4258E-07 g/m <sup>2</sup> /s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
			-	
(Concurrent project)	Heavy construction Source ID:	Percentage active area, p	66.3 %	Assume % works area for heavy construction
NCD works		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: Q2:	No. of working days per month, d	30 days	Sources Final Report
	Q3: 15-NCD1-2x, 15-TRD2, 15-TCPN-1x, 15-EGC5x Q4: 15-NCD1-2x, 15-NCD2-2x, 15-TRD2, 15-TRD3x, 15-TCPN-1x, 15-	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
	SCCP1, 15-EGC2x, 15-EGC3x, 15-EGC5x	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	2.06535E-05 g/m <sup>2</sup> /s (unmitigated) 1.71424E-06 g/m <sup>2</sup> /s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion	Percentage active area, p	66.3 %	
	Source ID: (as above)			AP42, Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	5.36401E-07 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
(Concurrent project)	Heavy construction Source ID:	Percentage active area, p	42.4 %	Assume % works area for heavy construction
ITT works (area		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 15-SCCP1, 15-AES6, 15-AES13x, 15-EM2x, 15-EGC3x, 15-ITT1 Q2: 15-SCCP1, 15-AES6, 15-AES13x, 15-EM2x, 15-EGC3x, 15-ITT1	No. of working days per month, d		Sources Final Report
	Q3: 15-SCCP1, 15-AES6, 15-AES13x, 15-EM2x, 15-EGC3x, 15-ITT1 Q4: 15-EM2x, 15-ITT1	No. of working hours per day, h	30 days 24 hour	AD40 Section 10.0.2.2
	Q4. 15°EMIZA, 15°1111	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	1.31957E-05 g/m <sup>2</sup> /s (unmitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion		1.09524E-06 g/m <sup>2</sup> /s (mitigated)	
	Source ID: (as above)	Percentage active area, p	42.4 %	AP42, Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	3.4271E-07 g/m²/s	=0.85*0.3*100000/(10000*365*24*60*60)*p/100
(Concurrent project)	Heavy construction	Percentage active area, p	42.38 %	
ITT works (line	Source ID:	i elcentage active area, p	+2.00 %	Assume % works area for heavy construction Water suppression 12 times a day
sources)	Q1: 15-SCRE2x, 15-SCRE5x, 15-AES2x, 15-AES9x, 15-AES11x	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
rioduwonts at grade	Q2: 15-SCRE2x, 15-SCRE5x, 15-AES2x, 15-AES9x, 15-AES11x Q3: 15-SCRE2x, 15-SCRE5x, 15-AES2x, 15-AES9x, 15-AES11x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4:	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
				Construction Operations, 1999 Assume road width equals 12m, therefore multiply emission rate by
		Emission Rate	0.000158348 g/m <sup>2</sup> /s (unmitigated)	12m. =2.69*0.3*1000000/(10000*d*h*60*60)*p/100 * 12
			1.31429E-05 g/m <sup>2</sup> /s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	42.38 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	3.4271E-07 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
(Concurrent project)	Heavy construction Source ID:	Percentage active area, p	30.0 %	Extracted from HKBCF EIA, assume 10% works area for heavy construction
Boundary Crossing Facilities (BCF)	Q1: 15-BCF-C1x, 15-BCF-C4 Q2: 15-BCF-C1x, 15-BCF-C4	Mitigation efficiency No. of working days per month, d	87.5 % 26 days	Extracted from HKBCF EIA Extracted from HKBCF EIA
	Q3: 15-BCF-C1x, 15-BCF-C4 Q4: 15-BCF-C1x, 15-BCF-C4	No. of working hours per day, h	12 hour	Extracted from HKBCF EIA AP42, Section 13.2.3.3
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	2.15545E-05 g/m <sup>2</sup> /s (unmitigated) 2.69431E-06 g/m <sup>2</sup> /s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion	Percentage active area, p	30 %	
	Source ID: (as above)	<b>G</b> 71		AP42, Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	2.4258E-07 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
(Concurrent project)	Heavy construction Source ID:	Percentage active area, p	30.0 %	Extracted from HKLR EIA, assume 10% works area for heavy
Hong Kong Link	Q1: 15-LR-2x, 15-LR-10x, 15-LR-14	Mitigation efficiency	87.5 %	construction Extracted from HKLR EIA
Road (HKLR)	Q2: Q3:	No. of working days per month, d No. of working hours per day, h	26 days 12 hour	Extracted from HKLR EIA Extracted from HKLR EIA
	Q4:	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	2.15545E-05 g/m <sup>2</sup> /s (unmitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
			2.69431E-06 g/m <sup>2</sup> /s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	30 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	2.4258E-07 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
		1		

Works Area	Sources		Parameter	Remarks
Third Runway Land	Heavy construction Source ID: For 24hrs activities:	Percentage active area, p	0.4 %	Assume % works area for heavy construction
	Q1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q2:			Sources Final Report
	Q3:	No. of working days per month, d	30 days	
	Q4: 16-1_03-1x, 16-1_08A-1, 16-1_08A-2, 16-1_08B-1, 16-1_08B-2, 16-	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
	2_04-1x, 16-2_06-2x	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	1.14236E-07 g/m <sup>2</sup> /s (unmitigated) 9.4816E-09 g/m <sup>2</sup> /s (mitigated)	=2.69**0.3*1000000/(10000*30*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.4 %	AP42. Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	2.96687E-09 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
ubmarine pipeline	Heavy construction Source ID:	Percentage active area, p	30.0 %	Assume % works area for heavy construction
ubmarine cable	Q1: 16-S1, 16-S3x Q2: 16-S1, 16-S3x	Mitigation efficiency No. of working days per month, d	91.7 % 30 days	Water suppression 12 times a day
	Q3: 16-S1, 16-S3x	No. of working hours per day, h	24 hour	AP42. Section 13.2.3.3
	04	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from
	Q4:	Emission Rate	9.34028E-06 g/m²/s (unmitigated) 7.75243E-07 g/m²/s (mitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	30 %	AP42, Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	2.4258E-07 g/m <sup>2</sup> /s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
concurrent project)	Heavy construction Source ID:	Percentage active area, p	26.0 %	Assume % works area for heavy construction
CD works	Q1: 16-NCD1-2x, 16-NCD2-2x, 16-TRD2, 16-TCPN-1x, 16-SCCP1, 16-	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	EGC2x, 16-EGC3x, 16-EGC5x Q2: 16-NCD1-2x, 16-NCD2-2x, 16-TRD2, 16-TRD3x, 16-TCPN-1x, 16-	No. of working days per month, d	30 days	Sources Final Report
	SCCP1, 16-EGC2x, 16-EGC3x, 16-EGC5x Q3: 16-NCD1-2x, 16-NCD2-2x, 16-TRD2, 16-TRD3x, 16-TCPN-1x, 16-	No. of working hours per day, h	24 hour	
	SCCP1, 16-EGC2x, 16-EGC3x, 16-EGC5x Q4: 16-NCD1-2x, 16-NCD2-2x, 16-TRD2, 16-TRD3x, 16-TCPN-1x, 16- SCCP1, 16-EGC2x, 16-EGC3x, 16-EGC5x			AP42, Section 13.2.3.3
	SUCP1, 16-EQU2X, 16-EQU3X, 16-EQU3X	Emission Factor (0.3) Emission Rate	0.807 Mg/hectare/month of activity 8.10666E-06 g/m <sup>2</sup> /s (unmitigated)	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion	Demonstration and in	6.72853E-07 g/m²/s (mitigated)	
	Source ID: (as above)	Percentage active area, p	26.0 %	AP42, Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	2.10541E-07 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Concurrent project)	Heavy construction Source ID:	Percentage active area, p	38.2 %	Assume % works area for heavy construction
T works (area ources)		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
Juices)	Q1: 16-AES6, 16-EM2x, 16-ITT1 Q2: 16-AES6, 16-EM2x, 16-ITT1	No. of working days per month, d	30 days	Sources Final Report
	Q3: 16-AES6, 16-EM2x, 16-ITT1 Q4: 16-AES6, 16-EM2x, 16-ITT1	No. of working hours per day, h	24 hour	
	Q4. 10 AL30, 10 LIVIZA, 10 11 11	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	1.19085E-05 g/m²/s (unmitigated) 9.88403E-07 g/m²/s (mitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	38.2 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	3.09279E-07 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Concurrent project)	Heavy construction Source ID:	Percentage active area, p	38.25 %	Assume % works area for heavy construction
T works (line ources)		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
oadworks - at grade	Q1: 16-AES2x, 16-AES9x, 16-AES11x Q2: 16-AES2x, 16-AES9x, 16-AES11x	No. of working days per month, d	30 days	Sources Final Report
	Q3: 16-AES2x, 16-AES9x, 16-AES11x Q4: 16-AES2x, 16-AES9x, 16-AES11x	No. of working hours per day, h Emission Factor (0.3)	24 hour 0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Poto	0.000142202 a/m2/a (upmitiantal)	Construction Operations, 1999 Assume road width equals 12m, therefore multiply emission rate
		Emission Rate	0.000142902 g/m²/s (unmitigated) 1.18608E-05 g/m²/s (mitigated)	12m. =2.69*0.3*1000000/(10000*d*h*60*60)*p/100 * 12
	Wind Erosion Source ID: (as above)	Percentage active area, p	38.25 %	
				AP42, Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999

T2 Expansion -	Heavy construction Source ID:	Percentage active area, p	1.6 %	Assume % works area for heavy construction
Advanced Works (Temporary Car Parks at NCD,		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
Temporary Road	Q1: 16-TRD5x, 16-TRD3x Q2: 16-TRD5x			Sources Final Report
Diversion)	Q2: 16-TRD5x Q3: 16-TRD5x Q4:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	AP42. Section 13.2.3.3
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	5.04328E-07 g/m²/s (unmitigated) 4.18592E-08 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	1.6 %	AP42. Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	1.30981E-08 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
(Concurrent project)	Heavy construction Source ID:	Percentage active area, p	30.0 %	Extracted from HKBCF EIA, assume 10% works area for heavy construction
Boundary Crossing	Q1: 16-BCF-C4	Mitigation efficiency	87.5 %	Extracted from HKBCF EIA
Facilities (BCF)	Q2: 16-BCF-C4	No. of working days per month, d	26 days	Extracted from HKBCF EIA
	Q3: 16-BCF-C4 Q4: 16-BCF-C4	No. of working hours per day, h	12 hour	Extracted from HKBCF EIA AP42. Section 13.2.3.3
	Q4. 10-201-04	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	2.15545E-05 g/m <sup>2</sup> /s (unmitigated) 2.69431E-06 g/m <sup>2</sup> /s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	30 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	2.4258E-07 g/m <sup>2</sup> /s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Other airport facilities	Heavy construction Source ID:	Percentage active area, p	5.2 %	Assume % works area for heavy construction
related works		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 16-ABT1-1x Q2: 16-ABT1-1x	No. of working days per month, d	30 days	Sources Final Report
	Q3: 16-ABT1-1x Q4: 16-ABT1-1x	No. of working hours per day, h	24 hour	AP42. Section 13.2.3.3
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	1.6071E-06 g/m²/s (unmitigated) 1.3339E-07 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	5.2 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	4.17387E-08 g/m <sup>2</sup> /s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Roadworks corresponding to	Heavy construction Source ID:	Percentage active area, p	5.2 %	Assume % works area for heavy construction
Other airport facilities related works		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 16-ABT1-2x Q2: 16-ABT1-2x Q3: 16-ABT1-2x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	Q4: 16-ABT1-2x	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	1.92852E-05 g/m <sup>2</sup> /s (unmitigated)	Construction Operations, 1999 Assume road width equals 12m, therefore multiply emission rate by 12m.
			1.60068E-06 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100 * 12
	Wind Erosion Source ID: (as above)	Percentage active area, p	5.2 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999

### Third Runway Work Areas

Works Area	Sources		Parameter	Remarks
Third Runway Land Formation	Heavy construction Source ID: Sea 24two activities:	Percentage active area, p	2.0 %	Assume % works area for heavy construction
	For 24hrs activities:			Assume 78 works area for neavy construction
	Q1: 17-1_03-1x, 17-1_04x, 17-1_07-1, 17-1_07-2, 17-1_08A-1, 17-1_08A-2, 17 1_08B-1, 17-1_08B-2, 17-1_09-1, 17-1_09-2, 17-2_03B, 17-2_04-1x, 17-2_05B 1x, 17-2_06-2x, 17-2_07B, 17-2_08, 17-2_09-1, 17-2_09-2		91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 17-1_02-1x, 17-1_03-1x, 17-1_04x, 17-1_07-1, 17-1_07-2, 17-1_08A-1, 17- 1_08A-2, 17-1_08B-1, 17-1_08B-2, 17-1_09-1, 17-1_09-2, 17-2_03B, 17- 2_05B-1x, 17-2_07A-1x, 17-2_07B, 17-2_08, 17-2_09-1, 17-2_09-2, 17-3_01A- 1x, 17-3_01A-3		30 days	
	Q3: 17-1_02-1x, 17-1_03-1x, 17-1_04x, 17-1_05, 17-1_07-1, 17-1_07-2, 17- 08A-1, 17-1_08A-2, 17-1_08B-1, 17-1_08B-2, 17-2_03B, 17-2_05B-1x, 17- 2_07A-1x, 17-2_07B, 17-2_08, 17-3_01A-1x, 17-3_01A-3	No. of working hours per day, h	24 hour	
	Q4: 17-1_02-1x, 17-1_03-1x, 17-1_04x, 17-1_05, 17-1_07-1, 17-1_07-2, 17- 1_08A-1, 17-1_08A-2, 17-2_03B, 17-2_05A, 17-2_05B-1x, 17-2_07A-1x, 17- 2_07B, 17-2_08	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions fro
		Emission Rate	6.08149E-07 g/m²/s (unmitigated) 5.04763E-08 g/m²/s (mitigated)	Construction Operations, 1999 =2.69**0.3*1000000/(10000*30*h*60*60)*p/100
	For night-time activities:	Percentage active area, p	2.0 %	
	Q1:	Mitigation efficiency	91.7 %	
	Q2: 17-2_04-1x, 17-2_06-2x	No. of working days per month, d	30 days	
	Q3: 17-1_09-1, 17-1_09-2, 17-2_04-1x, 17-2_06-2x, 17-2_09-1, 17-2_09-2		SU days	
		No. of working hours per day, h	12 (night) hour	
	Q4: 17-1_09-1, 17-1_09-2, 17-2_04-1x, 17-2_06-2x, 17-2_09-1, 17-2_09-2, 17- 3_02A-2x, 17-3_02A-1	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	1.2163E-06 g/m²/s (unmitigated) 1.00953E-07 g/m²/s (mitigated)	=2.69**0.3*1000000/(10000*30*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	2.0 %	AP42, Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	1.57945E-08 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Third Runway	Wind Erosion Source ID: Q1:	Percentage active area, p	20.0 %	Based on scheme design of definition for sand fill materials consisting of coarse materials with size not exceeding 37.5mm AP42. Table 11.9-4
Wind Erosion (only)		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
	Q2: Q3: Q4: 1_08B-1, 1_08B-2, 3_01A-1, 3_01A-2, 3_01A-3	Emission Rate	1.6172E-07 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Third Runway Other	Heavy construction Source ID:	Percentage active area, p	0.1 %	Assume % works area for heavy construction
Construction Works/Facilities on newly formed land		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
,	Q1: 17-4_04, 17-4_05-1 Q2: 17-4_04, 17-4_05-1 Q3: 17-4_04, 17-4_05-1	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	Q4: 17-4_04, 17-4_05-1	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions fro
		Emission Rate	2.1033E-08 g/m²/s (unmitigated) 1.74574E-09 g/m²/s (mitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.1 %	AP42, Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions fro Construction Operations, 1999
		Emission Rate	5.46255E-10 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
(Concurrent project)	Heavy construction Source ID:	Percentage active area, p	9.2 %	Assume % works area for heavy construction Water suppression 12 times a day
NCD works	Q1: 17-NCD1-2x, 17-NCD2-2x, 17-TRD2, 17-TRD3x, 17-TCPN-1x, 17-SCCP1, 17-EGC2x, 17-EGC5x	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 17-NCD1-2x, 17-NCD2-2x, 17-TRD2, 17-TRD3x, 17-TCPN-1x, 17-SCCP1, 17-EGC2x, 17-EGC3x, 17-EGC5x, 17-EGC5x, 17-EGC3x, 17-EGC3x, 17-TCPN, 17, 17-SCCP1, 17-TCPN, 17-T	No. of working days per month, d	30 days	
	Q3: 17-NCD1-2x, 17-NCD2-2x, 17-TRD2, 17-TRD3x, 17-TCPN-1x, 17-SCCP1, 17-EGC2x, 17-EGC3x, 17-EGC5x, 17-EGC5	No. of working hours per day, h	24 hour	
	Q4: 17-NCD1-2x, 17-NCD2-2x, 17-TRD2, 17-TRD3x, 17-TCPN-1x, 17-SCCP1, 17-EGC2x, 17-EGC3x, 17-EGC5x	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	2.8757E-06 g/m²/s (unmitigated) 2.38683E-07 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	9.2 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions fro
		Emission Rate	7.46858E-08 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
(Concurrent project)	Heavy construction	Percentage active area, p	28.8 %	
Concurrent project)				

		Emission Rate	7.46858E-08 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
(Concurrent project)	Heavy construction	Percentage active area, p	28.8 %	
	Source ID:	5		Assume % works area for heavy construction
ITT works (area sources)	Q1: 17-AES6	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2:	No. of working days per month, d	30 days	
	Q3:	No. of working hours per day, h	24 hour	
	Q4:	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	8.9612E-06 g/m²/s (unmitigated) 7.4378E-07 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	28.8 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	2.32735E-07 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100

Concurrent project)	tails of Dust Emission Sources for Tier 2 daily RSP Assess	Percentage active area, p	28.78 %	
TT works (line	Source ID:	. היסיותשט מטויד מודמ, µ		Assume % works area for heavy construction Water suppression 12 times a day
ources)	Q1: 17-AES2x, 17-AES9x, 17-AES11x	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: Q3:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4:	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 Accume read with equals 12m, therefore multiply emission rate by
		Emission Rate	0.000107534 g/m <sup>2</sup> /s (unmitigated)	Assume road width equals 12m, therefore multiply emission rate by 12m. =2.69*0.3*1000000/(10000*d*h*60*60)*p/100 * 12
			8.92536E-06 g/m <sup>2</sup> /s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	28.78 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	2.32735E-07 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
outh Cargo Roadworks - at grade	Heavy construction Source ID:	Percentage active area, p	55.17 %	Assume % works area for heavy construction
-		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: Q2: 17-CA1x Q3: 17-CA1x	No. of working days per month, d	30 days	Sources Final Report
	Q4: 17-CA1x	No. of working hours per day, h Emission Factor (0.3)	24 hour 0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	0.000206138 g/m <sup>2</sup> /s (unmitigated)	Assume road width equals 12m, therefore multiply emission rate by 12m.
			1.71095E-05 g/m <sup>2</sup> /s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100 * 12
	Wind Erosion	Percentage active area, p	55.17 %	
	Source ID: (as above)			AP42, Table 11.9-4
		Emission Factor (0.3) Emission Rate	0.255 Mg/hectare/year 4.46141E-07 g/m²/s	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
South Cargo	Heavy construction Source ID:	Percentage active area, p	55.2 %	Assume % works area for heavy construction
oadworks - viaduct		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	01: Q2: 17-CA3x, 17-CA6x	No. of working days per month, d	30 days	Sources Final Report
	Q3: 17-CA3x, 17-CA6x Q4: 17-CA3x, 17-CA6x	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is
		Emission Rate	2.14727E-05 g/m <sup>2</sup> /s (unmitigated)	total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile width + 50% extra for works) 1=2.69*0.3*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
			1.78223E-06 g/m <sup>2</sup> /s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	55.2 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	4.46141E-07 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Roadworks Road 6 -	Heavy construction	Percentage active area, p	37.4 %	
iaduct (Concept F, Option 3)	Source ID:	r ercentage active area, p	57.4 /6	Assume % works area for heavy construction Water suppression 12 times a day
	Q1:	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 17-RF2x, 17-RF4x, 17-RF9x, 17-RF10x, 17-RF11x, 17-RF17x, 17-RF16x, 17-RF19x, 17-RF21x, 17-RF25x, 17-RF26x, 17-RF30x, 17-RF40x, 17-RF	No. of working days per month, d	30 days	
	Q3: 17-RF2x, 17-RF4x, 17-RF9x, 17-RF10x, 17-RF11x, 17-RF17x, 17-RF16x, 17-RF19x, 17-RF21x, 17-RF25x, 17-RF26x, 17-RF29x, 17-RF30x, 17-RF33x,	No. of working hours per day, h	24 hour	
	17-RF35x, 17-RF36x, 17-RF37x Q4: 17-RF2x, 17-RF4x, 17-RF9x, 17-RF10x, 17-RF11x, 17-RF17x, 17-RF16x, 17-RF19x, 17-RF21x, 17-RF25x, 17-RF26x, 17-RF29x, 17-RF30x, 17-RF33x, 17-RF35x, 17-RF36x, 17-RF37x	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	1.45634E-05 g/m²/s (unmitigated)	Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile width +
			1 200765 06 2/22/2 (2012)	50% extra for works) '=2.69*0.3*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
	Wind Erosion		1.20876E-06 g/m²/s (mitigated)	
	Source ID: (as above)	Percentage active area, p	37.4 %	AP42, Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	3.02585E-07 g/m <sup>2</sup> /s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
lew APM	Heavy construction Source ID:	Percentage active area, p	2.9 %	Assume % works area for heavy construction
nterchange Station AIS)		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	01: Q2:	No. of working days per month, d	30 days	Sources Final Report
	Q3: 17-AIS1x Q4:	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
	Wind Explor	Emission Rate	8.9605E-07 g/m²/s (unmitigated) 7.43722E-08 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	2.88 %	AP42, Table 11.9-4
		Emission Factor (0.3) Emission Rate	0.255 Mg/hectare/year 2.32717E-08 g/m <sup>2</sup> /s	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
3HS and APM unnel	Heavy construction Source ID:	Percentage active area, p	0.4 %	Assume % works area for heavy construction
	<b>St</b>	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: Q2: Q3: 17-BAT1, 17-BAT2, 17-NAB4x	No. of working days per month, d	30 days 24 baur	Sources Final Report
	Q3: 17-BAT1, 17-BAT2, 17-NAB4x Q4: 17-BAT1, 17-BAT2, 17-NAB4x	No. of working hours per day, h	24 hour 0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
			U SU / IVID/DECTARE/MONTH OF ACTIVITY	WARE A UNCOMPANY ESTIMATING PARTICULATE MATTER EMISSIONS from
		Emission Factor (0.3) Emission Rate	1.30303E-07 g/m <sup>2</sup> /s (unmitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100

	Wind Erosion			
	Source ID: (as above)	Percentage active area, p	0.42 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	3.38416E-09 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
T2 Expansion Area	Heavy construction	Percentage active area, p	0.1 %	Assume % works area for heavy construction
	Source ID:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1:	Miligation enciency	31.7 %	Sources Final Report
	Q2: Q3: 17-T2E-1x, 17-T2E-3, 17-BHS1, 17-BHS2, 17-SAB, 17-NAB1x, 17-NAD1	No. of working days per month, d	30 days	
		No. of working hours per day, h	24 hour	
	Q4: 17-T2E-1x, 17-T2E-3, 17-AIS1x, 17-EVA5x, 17-EVA7x, 17-EVA9, 17- BHS1, 17-BHS2, 17-SAB, 17-NAB1x, 17-NAD1	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	4.61352E-08 g/m²/s (unmitigated) 3.82922E-09 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.1 %	AP42. Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	1.19819E-09 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
T2 Expansion -	Heavy construction	Percentage active area, p	8.0 %	Assume % works area for heavy construction
Emergency Vehicular Access	Source ID:			Water suppression 12 times a day
(EVA)	Q1:	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: Q3: 17-EVA5x, 17-EVA7x, 17-EVA9 Q4:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	u4.	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	2.4837E-06 g/m²/s (unmitigated) 2.06147E-07 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	8.0 %	AP42, Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	6.4505E-08 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Other airport facilities	Heavy construction	Percentage active area, p	1.4 %	Assume % works area for heavy construction
related works	Source ID:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 17-ABT1-1x			Sources Final Report
	Q2: 17-ABT1-1x Q3: 17-ABT1-1x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4: 17-ABT1-1x	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	4.36713E-07 g/m <sup>2</sup> /s (unmitigated) 3.62472E-08 g/m <sup>2</sup> /s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	1.4 %	1
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	1.1342E-08 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Roadworks corresponding to	Heavy construction Source ID:	Percentage active area, p	1.4 %	Assume % works area for heavy construction
Other airport facilities related works		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 17-ABT1-2x Q2: 17-ABT1-2x Q3: 17-ABT1-2x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	Q4: 17-ABT1-2x	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	5.24056E-06 g/m²/s (unmitigated)	Assume road width equals 12m, therefore multiply emission rate by 12m.
			4.34966E-07 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100 * 12
	Wind Erosion Source ID: (as above)	Percentage active area, p	1.4 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	1.1342E-08 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100

Third Runway Work Areas

Works Area	Sources	Percentage active area =	Parameter	Remarks
Third Runway Land Formation	Heavy construction Source ID: For 24hrs activities:	Percentage active area, p	15.1 %	Assume % works area for heavy construction
	Q1: 18-1_02-1x, 18-1_03-1x, 18-1_04x, 18-1_05, 18-1_06-1x, 18-1_08B- 2, 18-2_02B-1x, 18-2_02B-2, 18-2_05A, 18-2_05B-1x, 18-2_07A-1x	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 18-1_02-1x, 18-1_05, 18-1_06-1x, 18-2_02B-1x, 18-2_02B-2, 18- 2_05A, 18-2_08, 18-3_02B	No. of working days per month, d	30 days	
	Q3: 18-1_06-1x, 18-2_01, 18-2_02B-1x, 18-2_02B-2, 18-2_03B, 18- 2_05A, 18-2_05B-1x	No. of working hours per day, h	24 hour	
	Q4: 18-2_01, 18-2_02A, 18-2_02B-1x, 18-2_02B-2, 18-2_03B, 18-2_05B 1x	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	4.71447E-06 g/m <sup>2</sup> /s (unmitigated) 3.91301E-07 g/m <sup>2</sup> /s (mitigated)	Construction Operations, 1999 =2.69**0.3*1000000/(10000*30*h*60*60)*p/100
	For night-time activities:	Percentage active area, p	15.1 %	
	Q1: 18-1_09-1, 18-1_09-2, 18-2_04-1x, 18-2_06-2x, 18-2_09-1, 18-2_09- 2, 18-3_02A-2x, 18-3_02A-1	Mitigation efficiency	91.7 %	
	Q2: 18-1_09-1, 18-1_09-2, 18-2_04-1x, 18-2_06-2x, 18-2_09-1, 18-2_09- 2, 18-3_01A-1x, 18-3_01A-3, 18-3_02A-2x, 18-3_02A-1	No. of working days per month, d	30 days	
	Q3: 18-2_04-1x, 18-2_06-2x, 18-2_09-1, 18-2_09-2, 18-3_01A-1x, 18- 3_01A-3, 18-3_02A-2x, 18-3_02A-1	No. of working hours per day, h	12 (night) hour	
	Q4: 18-1_09-1, 18-1_09-2, 18-2_09-1, 18-2_09-2, 18-3_02A-2x, 18- 3_02A-1	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	9.42894E-06 g/m²/s (unmitigated) 7.82602E-07 g/m²/s (mitigated)	=2.69**0.3*1000000/(10000*30*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	15.1 %	AP42, Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	1.22441E-07 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Third Runway	Wind Erosion	Percentage active area, p	20.0 %	Based on scheme design of definition for sand fill materials
Wind Erosion (only)	Source ID: Q1: 1_07-2, 1_08A-2, 2_03B, 2_07B, 2_08, 3_01A-1, 3_01A-2, 3_01A-3	•	0.255 Mg/hectare/year	consisting of coarse materials with size not exceeding 37.5mm a AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
	Q2: 1_03-1, 1_03-2, 1_01, 1_04, 2_03B, 2_05B-1, 2_05B-2, 2_07A-1, 2_07A-2, 2_07B Q3: 1_09-1, 1_09-2, 2_08, 3_02B Q4: 2_04-1, 2_04-2, 2_05A, 2_06-1, 2_06-2, 2_06-3, 2_08, 3_02B	Emission Rate	1.6172E-07 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Third Runway Other	Heavy construction	Percentage active area, p	4.1 %	Assume % works area for heavy construction
Construction Works/Facilities on newly formed land	Source ID:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
,	Q1: 18-1_07-1, 18-1_08A-1, 18-1_08B-1, 18-4_04, 18-4_05-1 Q2: 18-1_07-1, 18-1_07-2, 18-1_08A-1, 18-1_08A-2, 18-1_08B-1, 18- 1_08B-2, 18-4_04, 18-4_05-1	No. of working days per month, d	30 days	Sources Final Report
	Q3: 18-1_02-1x, 18-1_03-1x, 18-1_04x, 18-1_05, 18-1_07-1, 18-1_07-2, 18-1_08A-1, 18-1_08A-2, 18-1_08B-1, 18-1_08B-2, 18-2_07A-1x, 18-2_07B, 18-4_04, 18-4_05-1	No. of working hours per day, h	24 hour	
	Q4: 18-1_02-1x, 18-1_03-1x, 18-1_04x, 18-1_05, 18-1_06-1x, 18-1_07-1, 18-1_07-2, 18-1_08A-1, 18-1_08A-2, 18-1_08B-1, 18-1_08B-2, 18-2_07A-1x, 18-2_07B, 18-3_01A-1x, 18-3_01A-3, 18-4_04, 18-4_05-1	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	1.27316E-06 g/m²/s (unmitigated) 1.05672E-07 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	4.1 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	3.30658E-08 g/m <sup>2</sup> /s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
(Concurrent project)	Heavy construction Source ID:	Percentage active area, p	44.6 %	Assume % works area for heavy construction
NCD works	Q1: 18-NCD2-2x, 18-TRD3x, 18-SCCP1, 18-EGC2x, 18-EGC3x	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 18-NCD2-2x, 18-TRD3x, 18-SCCP1, 18-EGC2x, 18-EGC3x Q3: 18-NCD2-2x, 18-TRD3x, 18-SCCP1, 18-EGC2x, 18-EGC3x Q4: 18-NCD2-2x, 18-TRD3x, 18-SCCP1, 18-EGC2x, 18-EGC3x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	1.38968E-05 g/m²/s (unmitigated) 1.15343E-06 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	44.6 %	
				AP42, Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999

Midfield development	tails of Dust Emission Sources for Tier 2 daily RSP Asses	Percentage active area, p	0.9 %	Accume % works area for boow construction
(MD)	Source ID:			Assume % works area for heavy construction Water suppression 12 times a day
	Q1: 18-MD	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 18-MD Q3: 18-MD	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4: 18-MD	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	2.65147E-07 g/m²/s (unmitigated) 2.20072E-08 g/m²/s (mitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.9 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	6.88624E-09 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
South Cargo Roadworks - at grade	Heavy construction Source ID:	Percentage active area, p	50.92 %	Assume % works area for heavy construction Water suppression 12 times a day
	Q1: 18-CA1x	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 18-CA1x Q3: 18-CA1x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4: 18-CA1x	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	0.000190259 g/m <sup>2</sup> /s (unmitigated)	Assume road width equals 12m, therefore multiply emission rate by 12m.
			1.57915E-05 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100 * 12
	Wind Erosion Source ID: (as above)	Percentage active area, p	50.92 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	4.11775E-07 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
South Cargo Roadworks - viaduct	Heavy construction Source ID:	Percentage active area, p	50.9 %	Assume % works area for heavy construction
		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 18-CA3x, 18-CA6x Q2: 18-CA3x, 18-CA6x	No. of working days per month, d	30 days	Sources Final Report
	Q3: 18-CA3x, 18-CA6x Q4: 18-CA3x, 18-CA6x	No. of working hours per day, h Emission Factor (0.3)	24 hour 0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	1.98187E-05 g/m²/s (unmitigated)	Construction Operations, 1999 Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile width +
			1.64495E-06 g/m²/s (mitigated)	50% extra for works) '=2.69*0.3*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
	Wind Erosion			
	Source ID: (as above)	Percentage active area, p	50.9 %	AP42, Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	4.11775E-07 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Roadworks Road 6 - viaduct (Concept F,	Heavy construction Source ID:	Percentage active area, p	34.5 %	Assume % works area for heavy construction
Option 3)	Q1: 18-RF2x, 18-RF4x, 18-RF9x, 18-RF10x, 18-RF11x, 18-RF17x, 18- RF16x, 18-RF19x, 18-RF21x, 18-RF25x, 18-RF26x, 18-RF29x, 18- RF30x, 18-RF33x, 18-RF35x, 18-RF36x, 18-RF37x	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 18-RF2x, 18-RF4x, 18-RF9x, 18-RF10x, 18-RF11x, 18-RF17x, 18- RF16x, 18-RF19x, 18-RF21x, 18-RF25x, 18-RF26x, 18-RF29x, 18- RF30x, 18-RF33x, 18-RF35x, 18-RF36x, 18-RF37x	No. of working days per month, d	30 days	
	Q3: 18-RF2x, 18-RF4x, 18-RF9x, 18-RF10x, 18-RF11x, 18-RF17x, 18- RF16x, 18-RF19x, 18-RF21x, 18-RF25x, 18-RF26x, 18-RF29x, 18-	No. of working hours per day, h	24 hour	
	RF30x, 18-RF33x, 18-RF35x, 18-RF36x, 18-RF37x Q4: 18-RF2x, 18-RF4x, 18-RF9x, 18-RF10x, 18-RF11x, 18-RF17x, 18- RF16x, 18-RF19x, 18-RF21x, 18-RF25x, 18-RF26x, 18-RF29x, 18- RF30x, 18-RF33x, 18-RF35x, 18-RF36x, 18-RF37x	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	1.34416E-05 g/m <sup>2</sup> /s (unmitigated)	Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile width + 50% or the for width for the form of the f
			1.11565E-06 g/m²/s (mitigated)	50% extra for works) '=2.69*0.3*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
	Wind Erosion Source ID: (as above)	Percentage active area, p	34.5 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	2.79277E-07 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
New APM	Heavy construction	Percentage active area, p	14.9 %	Assume % works area for boow construction
Interchange Station (AIS)	Source ID:			Assume % works area for heavy construction Water suppression 12 times a day
	Q1:	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 18-AIS1x, 18-EVA7x Q3: 18-AIS1x, 18-EVA7x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4: 18-AIS1x, 18-EVA7x	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	4.64534E-06 g/m <sup>2</sup> /s (unmitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
			3.85563E-07 g/m <sup>2</sup> /s (mitigated)	
	Wind Erosion	Percentage active area, p	3.85563E-07 g/m²/s (mitigated) 14.92 %	
	Wind Erosion Source ID: (as above)		14.92 %	AP42, Table 11.9-4
		Percentage active area, p Emission Factor (0.3) Emission Rate		AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100

Baggage Hall -	Heavy construction	Percentage active area, p	19.5 %	Assume % works area for heavy construction
Baggage Handling System (BHS)	Source ID:			Water suppression 12 times a day
		Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 18-BHS1, 18-BHS2, 18-EVA9 Q3: 18-BHS1, 18-BHS2, 18-EVA9	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4: 18-BHS1, 18-BHS2, 18-EVA9	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	6.06282E-06 g/m <sup>2</sup> /s (unmitigated) 5.03214E-07 g/m <sup>2</sup> /s (mitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	19.47 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	1.5746E-07 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
lew APM Depot NAD)	Heavy construction Source ID:	Percentage active area, p	0.4 %	Assume % works area for heavy construction
		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 18-NAD1, 18-NAD2 Q2: 18-NAD1, 18-NAD2 Q3: 18-NAD1, 18-NAD2	No. of working days per month, d	30 days	Sources Final Report
	Q4: 18-NAD1, 18-NAD2	No. of working hours per day, h Emission Factor (0.3)	24 hour	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions fron
		Emission Rate	0.807 Mg/hectare/month of activity 1.29094E-07 g/m <sup>2</sup> /s (unmitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
			1.07148E-08 g/m <sup>2</sup> /s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.41 %	
	Q1: 18-NAD1, 18-NAD2	Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	3.35276E-09 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
3HS and APM unnel	Heavy construction Source ID:	Percentage active area, p	0.5 %	Assume % works area for heavy construction
	04.40 DATA 40 DATA 40 MICH	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 18-BAT1, 18-BAT2, 18-NAB4x Q2: 18-BAT1, 18-BAT2, 18-NAB4x Q3: 18-BAT1, 18-BAT2, 18-NAB4x	No. of working days per month, d	30 days 24 bour	Sources Final Report
	Q3: 18-BAT1, 18-BAT2, 18-NAB4x Q4: 18-BAT1, 18-BAT2, 18-NAB4x	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.3) Emission Rate	0.807 Mg/hectare/month of activity 1.52021E-07 g/m <sup>2</sup> /s (unmitigated)	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	1.26177E-08 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.49 %	
	Q1: 18-BAT1, 18-BAT2, 18-NAB4x	Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions fron
		Emission Rate	3.94819E-09 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
2 Expansion Area	Heavy construction	Percentage active area, p	0.5 %	Assume % works area for heavy construction
	Source ID:		017.0	Water suppression 12 times a day
	Q1: 18-T2E-1x, 18-T2E-3, 18-AIS1x, 18-BHS2 Q2: 18-T2E-3	Mitigation efficiency No. of working days per month, d	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q3: Q4:	No. of working hours per day, h	30 days 24 hour	AP42. Section 13.2.3.3
	u	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	1.65854E-07 g/m²/s (unmitigated) 1.37658E-08 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.5 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	4.30744E-09 g/m²/s	Construction Operations, 1999 =0.85*0.3*100000/(10000*365*24*60*60)*p/100
2 Expansion - Car Park North (North	Heavy construction Source ID:	Percentage active area, p	0.3 %	Assume % works area for heavy construction
nnex Building)		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 18-NAB1x, 18-BHS1 Q2: 18-NAB1x Q3:	No. of working days per month, d	30 days	Sources Final Report
	Q3: Q4:	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.3) Emission Rate	0.807 Mg/hectare/month of activity 1.08725E-07 g/m <sup>2</sup> /s (unmitigated)	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
			9.02421E-09 g/m²/s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.3 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	2.82375E-09 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
2 Expansion -	Heavy construction	Percentage active area, p	0.5 %	
Lounge Limo (South Annex Building)				Assume % works area for heavy construction Water suppression 12 times a day
	Q1: 18-SAB	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 18-SAB Q3:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4:	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	1.42106E-07 g/m²/s (unmitigated) 1.17948E-08 g/m²/s (mitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion	Percentage active area, p	0.5 %	
	Source ID: (as above)	Emission Factor (0.3)		AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
			0.255 Mg/hectare/year	Construction Operations, 1999
		Emission Rate	3.69069E-09 g/m <sup>2</sup> /s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100

# Third Bunway Work Areas

Third Runway Work	Areas			
Works Area	Sources Heavy construction	Percentage active area, p	Parameter 9.9 %	Remarks
Formation	Source ID: For 24hrs activities:	r crocinage active area, p		Assume % works area for heavy construction
	Q1: 19-2_01, 19-2_02A	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q2: 19-2_01, 19-2_02A, 19-2_05A	No. of working days per month, d	30 days	Sources Final Report
	Q3: 19-2_01, 19-2_02A, 19-2_02B-1x, 19-2_02B-2, 19-2_05A	No. of working hours per day, h	24 hour	
	Q4: 19-2_02B-1x, 19-2_02B-2	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	3.08266E-06 g/m²/s (unmitigated) 2.55861E-07 g/m²/s (mitigated)	Construction Operations, 1999 =2.69**0.3*1000000/(10000*30*h*60*60)*p/100
	For night-time activities:	Percentage active area, p	9.9 %	
	Q1: 19-1_09-1, 19-1_09-2, 19-2_06-2x, 19-3_02A-2x, 19-3_02A-1	Mitigation efficiency	91.7 %	
	Q2: 19-1_09-2, 19-2_04-1x, 19-2_06-2x, 19-2_09-1, 19-3_02A-2x, 19-3_02A 1	No. of working days per month, d	30 days	
	Q3: 19-2_04-1x, 19-2_06-2x, 19-2_09-1, 19-3_02A-2x, 19-3_02A-1	No. of working hours per day, h	12 (night) hour	
	Q4: 19-2_09-1	Emission Factor (0.3)		AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	0.807 Mg/hectare/month of activity 6.16532E-06 g/m <sup>2</sup> /s (unmitigated)	Construction Operations, 1999
		Emission Rate	5.11721E-07 g/m²/s (mitigated)	=2.69**0.3*1000000/(10000*30*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	9.9 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Construing, 1999
		Emission Rate	8.00609E-08 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Third Runway	Wind Erosion Source ID:	Percentage active area, p	20.0 %	Based on scheme design of definition for sand fill materials consisting of coarse materials with size not exceeding 37.5mm an
Wind Erosion (only)	2_08, 2_09-1, 2_03A, 2_03B, 2_04-1, 2_04-2, 2_05A, 2_05B-1, 2_05B-2, 2_08, 2_09-1, 2_09-2, 3_02B	Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
	Q2: 2_02B-1, 2_03A, 2_03B, 2_05B-1, 2_05B-2, 3_02B	Emission Rate	1.6172E-07 g/m <sup>2</sup> /s	Construction Operations, 1999 =0.85*0.3*100000/(10000*365*24*60*60)*p/100
	Q3: 1_09-2, 3_02B Q4: 3_02A-1, 3_02A-2, 3_02A-3, 3_02B		1.0172L-07 g/11-/S	=0.85 0.5 100000/(10000 305 24 00 00) p/100
hird Runway Other construction	Heavy construction Source ID:	Percentage active area, p	3.8 %	Assume % works area for heavy construction
Vorks/Facilities on ewly formed land	19-4_04	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 19-1_02-1x, 19-1_03-1x, 19-1_04x, 19-1_05, 19-1_06-1x, 19-1_09-1, 19- 2_02B-2, 19-2_07A-1x, 19-2_07B, 19-2_08, 19-2_09-2, 19-4_04	No. of working days per month, d	30 days	
	Q3: 19-1_02-1x, 19-1_03-1x, 19-1_04x, 19-1_05, 19-1_06-1x, 19-1_09-1, 19- 2_03B, 19-2_05B-1x, 19-2_07A-1x, 19-2_07B, 19-2_08, 19-2_09-2, 19-4_04	No. of working hours per day, h	24 hour	
	Q4: 19-1_09-1, 19-1_09-2, 19-2_01, 19-2_02A, 19-2_03B, 19-2_04-1x, 19- 2_05A, 19-2_05B-1x, 19-2_06-2x, 19-2_07A-1x, 19-2_07B, 19-2_08, 19- 2_09-2, 19-4_04	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	1.18138E-06 g/m²/s (unmitigated) 9.80541E-08 g/m²/s (mitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	3.8 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	3.06819E-08 g/m <sup>2</sup> /s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
<i>l</i> idfield development MD)	Heavy construction Source ID:	Percentage active area, p	2.0 %	Assume % works area for heavy construction
		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 19-MD Q2: 19-MD Q3: 19-MD	No. of working days per month, d	30 days	Sources Final Report
	Q4: 19-MD	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.3) Emission Rate	0.807 Mg/hectare/month of activity 6.18754E-07 g/m <sup>2</sup> /s (unmitigated) 5.13566E-08 g/m <sup>2</sup> /s (mitigated)	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	2.0 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	1.60699E-08 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
South Cargo Roadworks - at grade	Heavy construction Source ID:	Percentage active area, p	20.69 %	Assume % works area for heavy construction
	Q1: 19-CA1x	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 19-CA1x Q3: 19-CA1x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4: 19-CA1x	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	7.73009E-05 g/m <sup>2</sup> /s (unmitigated)	Assume road width equals 12m, therefore multiply emission rate b 12m.
			6.41598E-06 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100 * 12
	Wind Erosion	Percentage active area, p	20.69 %	
	Source ID: (as above)			AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	1.67301E-07 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100

South Cargo	tails of Dust Emission Sources for Tier 2 daily RSP Assessme	Percentage active area, p	20.7 %	
Roadworks - viaduct	Source ID:	r eicentage active area, p	20.7 %	Assume % works area for heavy construction Water suppression 12 times a day
	Q1: 19-CA3x, 19-CA6x	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 19-CA3x, 19-CA6x	No. of working days per month, d	30 days	Sources Final Report
	Q4: 19-CA3x, 19-CA6x	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is
		Emission Rate	8.05218E-06 g/m²/s (unmitigated)	approximated to a line, assume without of 7.5m (i.e. 5m pile width + 50% extra for works) !=2.69*0.3*100000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
	Wind Erosion		6.68331E-07 g/m²/s (mitigated)	
	Source ID: (as above)	Percentage active area, p	20.7 %	AP42. Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	1.67301E-07 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Roadworks Road 6 - viaduct (Concept F,	Heavy construction Source ID:	Percentage active area, p	14.0 %	Assume % works area for heavy construction Water suppression 12 times a day
	Q1: 19-RF2x, 19-RF4x, 19-RF9x, 19-RF10x, 19-RF11x, 19-RF17x, 19- RF16x, 19-RF19x, 19-RF21x, 19-RF25x, 19-RF26x, 19-RF29x, 19-RF30x, 19- RF33x, 19-RF35x, 19-RF37x, 19-RF37x	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 19-RF2x, 19-RF4x, 19-RF9x, 19-RF10x, 19-RF11x, 19-RF17x, 19- RF16x, 19-RF19x, 19-RF21x, 19-RF25x, 19-RF26x, 19-RF29x, 19-RF30x, 19- RF33x, 19-RF35x, 19-RF36x, 19-RF37x	No. of working days per month, d	30 days	
	Q3: 19-RF2x, 19-RF4x, 19-RF9x, 19-RF10x, 19-RF11x, 19-RF17x, 19- RF16x, 19-RF19x, 19-RF21x, 19-RF25x, 19-RF26x, 19-RF29x, 19-RF30x, 19- RF33x, 19-RF35x, 19-RF36x, 19-RF37x, 19-	No. of working hours per day, h	24 hour	
	Q4: 19-RF2x, 19-RF4x, 19-RF9x, 19-RF10x, 19-RF11x, 19-RF17x, 19- RF16x, 19-RF19x, 19-RF21x, 19-RF25x, 19-RF26x, 19-RF29x, 19-RF30x, 19- RF33x, 19-RF35x, 19-RF36x, 19-RF37x	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 Assume 30m spacing between road piers (base:5mx 5m), therefore
		Emission Rate	5.46122E-06 g/m²/s (unmitigated)	total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile width + 50% extra for works)
			4.53281E-07 g/m²/s (mitigated)	'=2.69*0.3*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
	Wind Erosion Source ID: (as above)	Percentage active area, p	14.0 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	1.13468E-07 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
New APM Interchange Station	Heavy construction Source ID:	Percentage active area, p	7.6 %	Assume % works area for heavy construction
(AIS)		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
		No. of working days per month, d	30 days	Sources Final Report
	Q3: Q4:	No. of working hours per day, h Emission Factor (0.3)	24 hour 0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
				Construction Operations, 1999
		Emission Rate	2.36908E-06 g/m²/s (unmitigated) 1.96633E-07 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	7.61 %	
	Q1: 19-AIS1x, 19-EVA7x	Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	6.15282E-08 g/m²/s	Construction Operations, 1999 =0.85*0.3*100000/(10000*365*24*60*60)*p/100
Baggage Hall -	Heavy construction	Percentage active area, p	19.0 %	
Baggage Handling System (BHS)	Source ID:	r eicentage active area, p	13.0 %	Assume % works area for heavy construction Water suppression 12 times a day
	Q1: 19-BHS1, 19-BHS2, 19-EVA9	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4: 19-BHS1, 19-BHS2, 19-EVA9	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	5.93102E-06 g/m <sup>2</sup> /s (unmitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Mind Proving		4.92274E-07 g/m <sup>2</sup> /s (mitigated)	
	Wind Erosion Source ID: (as above) Q1: 19-BHS1, 19-BHS2, 19-EVA9	Percentage active area, p	19.05 %	AP42, Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	1.54037E-07 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
New APM Depot (NAD)	Heavy construction Source ID:	Percentage active area, p	0.4 %	Assume % works area for heavy construction
	Q1: 19-NAD1, 19-NAD2	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 19-NAD1, 19-NAD2	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4: 19-NAD2	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	1.29094E-07 g/m <sup>2</sup> /s (unmitigated) 1.07148E-08 g/m <sup>2</sup> /s (mitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	1			
	Wind Erosion	Percentage active area in	0.41 %	
	Wind Erosion Source ID: (as above) Q1: 19-NAD1, 19-NAD2	Percentage active area, p	0.41 % 0.255 Mo/bectare/vear	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
	Source ID: (as above)	Percentage active area, p Emission Factor (0.3) Emission Rate	0.41 % 0.255 Mg/hectare/year 3.35276E-09 g/m²/s	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100

BHS and APM tunnel	Heavy construction Source ID: Q1: 19-BAT1, 19-BAT2, 19-NAB4x Q2: 19-BAT1, 19-BAT2, 19-NAB4x Q3: 19-BAT1, 19-BAT2, 19-NAB4x Q4: 19-BAT1	Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor (0.3) Emission Rate	0.5 % 91.7 % 30 days 24 hour 0.807 Mg/hectare/month of activity 1.52021E-07 g/m²/s (unmitigated)	Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above) Q1: 19-BAT1, 19-BAT2, 19-NAB4x	Percentage active area, p Emission Factor (0.3) Emission Rate	1.26177E-08 g/m²/s (mitigated) 0.49 % 0.255 Mg/hectare/year 3.94819E-09 g/m²/s	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
T2 Expansion Area	Heavy construction Source ID: Q1: Q2: Q3: Q4: 19-AIS1x, 19-EVA7x, 19-NAB1x, 19-NAB4x, 19-BAT2, 19-NAD1	Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor (0.3) Emission Rate	3.1 % 91.7 % 30 days 24 hour 0.807 Mg/hectare/month of activity 9.61359E-07 g/m²/s (unmitigated) 7.97928E-08 g/m²/s (mitigated)	Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p Emission Factor (0.3) Emission Rate	3.1 % 0.255 Mg/hectare/year 2.49678E-08 g/m²/s	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100

Third Runway Work	Areas			
Works Area Third Runway Land Formation	Sources Heavy construction Source ID: For 24hrs activities:	Percentage active area, p	Parameter 0.1 %	Remarks Assume % works area for heavy construction
	Q1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: Q3: Q4:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.3) Emission Rate	0.807 Mg/hectare/month of activity 4.64656E-08 g/m²/s (unmitigated) 3.85664E-09 g/m²/s (mitigated)	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 =2.69**0.3*1000000/(10000*30*h*60*60)*p/100
	For night-time activities:	Percentage active area, p	0.1 %	
	Q1: Q2: 20-3_02A-2x, 20-3_02A-1 Q3: 20-3_02A-2x, 20-3_02A-1 Q4:	Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor (0.3) Emission Rate	91.7 % 30 days 12 (night) hour 0.807 Mg/hectare/month of activity 9.29311E-08 g/m²/s (unmitigated) 7.71329E-09 g/m²/s (mitigated)	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 =2.69**0.3*1000000/(10000*30*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p Emission Factor (0.3) Emission Rate	0.1 % 0.255 Mg/hectare/year 1.20678E-09 g/m²/s	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
hird Runway Vind Erosion (only)	Wind Erosion Source ID: Q1: 2_09-1, 3_02A-1, 3_02A-2, 3_02A-3, 3_02B	Percentage active area, p Emission Factor (0.3)	20.0 % 0.255 Mg/hectare/year	Based on scheme design of definition for sand fill materials consisting of coarse materials with size not exceeding 37.5mm an AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
Third Runway Other	Q2: 2_09-1, 3_02B Q3: 2_09-1, 3_02B Q4: 3_02A-1, 3_02B Heavy construction	Emission Rate	1.6172E-07 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
onstruction	Teady Construction Source ID: 01: 20-1, 09-1, 20-2_01, 20-2_02A, 20-2_02B-1x, 20-2_02B-2, 20- 2_03B, 20-2_05A, 20-2_05B-1x, 20-2_06-2x, 20-2_07A-1x, 20-2_07B, 20-2_08, 20-2_09-2 02: 20-1_09-1, 20-2_01, 20-2_02A, 20-2_02B-1x, 20-2_02B-2, 20- 2_03B, 20-2_05A, 20-2_05B-1x, 20-2_06-2x, 20-2_07A-1x, 20-2_07B,		4.0 % 91.7 % 30 days	Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	20-2_08, 20-2_09-2 Q3: 20-1_09-1, 20-2_01, 20-2_02A, 20-2_02B-1x, 20-2_02B-2, 20- 2_03B, 20-2_05A, 20-2_05B-1x, 20-2_07A-1x, 20-2_07B, 20-2_08, 20- 2_09-2 Q4: 20-2_01, 20-2_02A, 20-2_02B-1x, 20-2_02B-2, 20-2_03B, 20- 2_05A, 20-2_05B-1x, 20-2_07A-1x, 20-2_07B, 20-2_09-1, 20-3_02A- 2x	No. of working hours per day, h Emission Factor (0.3) Emission Rate	24 hour 0.807 Mg/hectare/month of activity 1.24822E-06 g/m²/s (unmitigated) 1.03602E-07 g/m²/s (mitigated)	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p Emission Factor (0.3) Emission Rate	4.0 % 0.255 Mg/hectare/year 3.24179E-08 g/m²/s	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Aidfield development	Heavy construction Source ID:	Percentage active area, p	1.9 %	Assume % works area for heavy construction
MD)	Q1: 20-MD Q2: 20-MD Q3: 20-MD Q4: 20-MD	Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor (0.3) Emission Rate	91.7 % 30 days 24 hour 0.807 Mg/hectare/month of activity 5.99291E-07 g/m²/s (unmitigated) 4.97412E-08 g/m²/s (mitigated)	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p Emission Factor (0.3) Emission Rate	1.9 % 0.255 Mg/hectare/year 1.55644E-08 g/m²/s	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Vestern Support rea Emergency ccess Road yover)	Heavy construction Source ID:	Percentage active area, p Mitigation efficiency	55.2 % 91.7 %	Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 20-WSA2x, 20-WSA4x Q2: 20-WSA2x, 20-WSA4x Q3: 20-WSA2x, 20-WSA4x Q4: 20-WSA2x, 20-WSA4x	No. of working days per month, d No. of working hours per day, h Emission Factor (0.3)	30 days 24 hour 0.807 Mg/hectare/month of activity	Sources Final Report AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	2.14727E-05 g/m²/s (unmitigated)	Construction Operations, 1999 Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile width - 50% extra for works) '=2.69*0.3*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
	Wind Erasion		1.78223E-06 g/m²/s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p Emission Factor (0.3)	55.2 % 0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	4.46141E-07 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100

Western Support	Heavy construction	Percentage active area, p	55.2 %	Assume % works area for heavy construction
Area Emergency Access Road	Source ID:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
(at grade)	Q1: 20-WSA5x Q2: 20-WSA5x	No. of working days per month, d	30 days	Sources Final Report
	Q3: 20-WSA5x Q4: 20-WSA5x Q4: 20-WSA5x	No. of working hours per day, h	24 hour	AP42. Section 13.2.3.3
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 Assume road width equals 12m, therefore multiply emission rate by
		Emission Rate	2.06138E-04 g/m <sup>2</sup> /s (unmitigated)	12m. =2.69*0.3*1000000/(10000*d*h*60*60)*p/100 * 12
			1.71095E-05 g/m <sup>2</sup> /s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	55.2 %	
		Emission Factor (0.3) Emission Rate	0.255 Mg/hectare/year 4.46141E-07 g/m²/s	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
New APM Interchange Station	Heavy construction Source ID:	Percentage active area, p	4.3 %	Assume % works area for heavy construction Water suppression 12 times a day
(AIS)	Q1: 20-AIS1x, 20-EVA7x	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 20-AIS1x, 20-EVA7x Q3:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4:	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	1.34139E-06 g/m²/s (unmitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
			1.11335E-07 g/m²/s (mitigated)	
	Wind Erosion Source ID: (as above) Q1: 20-AIS1x, 20-EVA7x	Percentage active area, p	4.31 %	
	Q1: 20-AIS1X, 20-EVA/X	Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	3.48378E-08 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Baggage Hall -	Heavy construction	Percentage active area, p	9.2 %	
Baggage Handling System (BHS)	Source ID:			Assume % works area for heavy construction Water suppression 12 times a day
,	Q1: 20-BHS1, 20-BHS2, 20-EVA9	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 20-BHS1, 20-BHS2, 20-EVA9 Q3:	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4:	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	2.87558E-06 g/m <sup>2</sup> /s (unmitigated) 2.38673E-07 g/m <sup>2</sup> /s (mitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	9.24 %	
	Q1: 20-BHS1, 20-BHS2, 20-EVA9	Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	7.46828E-08 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
New APM Depot (NAD)	Heavy construction Source ID:	Percentage active area, p Mitigation efficiency	0.4 % 91.7 %	Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 20-NAD2 Q2: 20-NAD1, 20-NAD2	No. of working days per month, d	30 days	Sources Final Report
	Q3: 20-NAD1, 20-NAD2 Q4:	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	1.29094E-07 g/m <sup>2</sup> /s (unmitigated) 1.07148E-08 g/m <sup>2</sup> /s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.41 %	
	Q1: 20-NAD2	Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	3.35276E-09 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
BHS and APM	Heavy construction	Percentage active area, p	0.4 %	Assume % works area for heavy construction
tunnel	Source ID:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 20-BAT1 Q2: 20-BAT1, 20-BAT2, 20-NAB4x	No. of working days per month, d	30 days	Sources Final Report
	Q3: Q4:	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	1.30303E-07 g/m²/s (unmitigated) 1.08152E-08 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.42 %	
	Q1: 20-BAT1	Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	3.38416E-09 g/m <sup>2</sup> /s	Construction Operations, 1999 =0.85'0.3*1000000/(10000*365*24*60*60)*p/100
			0.5 %	Assume % works area for heavy construction
T2 Expansion Area	Heavy construction Source ID:	Percentage active area, p		
T2 Expansion Area	Source ID:	Percentage active area, p Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
T2 Expansion Area	Source ID: Q1: 20-NAB1x, 20-NAB4x, 20-BAT2, 20-NAD1 Q2: 20-NAB1x	Mitigation efficiency No. of working days per month, d	30 days	Water suppression 12 times a day
T2 Expansion Area	Source ID: Q1: 20-NAB1x, 20-NAB4x, 20-BAT2, 20-NAD1	Mitigation efficiency No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report AP42, Section 13.2.3.3
T2 Expansion Area	Source ID: Q1: 20-NAB1x, 20-NAB4x, 20-BAT2, 20-NAD1 Q2: 20-NAB1x Q3:	Mitigation efficiency No. of working days per month, d	30 days	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
T2 Expansion Area	Source ID: Q1: 20-NAB1x, 20-NAB4x, 20-BAT2, 20-NAD1 Q2: 20-NAB1x Q3:	Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor (0.3) Emission Rate	30 days 24 hour 0.807 Mg/hectare/month of activity 1.40847E-07 g/m <sup>2</sup> /s (unmitigated) 1.16903E-08 g/m <sup>2</sup> /s (mitigated)	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
T2 Expansion Area	Source ID: Q1: 20-NAB1x, 20-NAB4x, 20-BAT2, 20-NAD1 Q2: 20-NAB1x Q3: Q4:	Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor (0.3) Emission Rate Percentage active area, p	30 days 24 hour 0.807 Mg/hectare/month of activity 1.40847E-07 g/m <sup>2</sup> /s (unmitigated) 1.16903E-08 g/m <sup>2</sup> /s (mitigated) 0.5 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
T2 Expansion Area	Source ID: Q1: 20-NAB1x, 20-NAB4x, 20-BAT2, 20-NAD1 Q2: 20-NAB1x Q3: Q4: Wind Erosion	Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor (0.3) Emission Rate	30 days 24 hour 0.807 Mg/hectare/month of activity 1.40847E-07 g/m <sup>2</sup> /s (unmitigated) 1.16903E-08 g/m <sup>2</sup> /s (mitigated)	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100

Third Runway Work Areas

Third Runway Work	<pre>&lt; Areas</pre>			
Works Area Third Runway Land	Sources Heavy construction	Percentage active area, p	Parameter 3.4 %	Remarks
Formation	Source ID: For 24hrs activities:	Fercentage active area, p	3.4 %	Assume % works area for heavy construction
	Q1:			Water suppression 12 times a day
		Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2:	No. of working days per month, d	30 days	
	Q3:	No. of working hours per day, h	24 hour	
	Q4: 21-3_01Bx	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	1.06915E-06 g/m <sup>2</sup> /s (unmitigated)	Construction Operations, 1999 =2.69**0.3*1000000/(10000*30*h*60*60)*p/100
			8.87395E-08 g/m <sup>2</sup> /s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	3.4 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	2.77673E-08 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Third Runway	Wind Erosion			Based on scheme design of definition for sand fill materials
Wind Erosion (only)	Source ID: Q1:3_02A-1,3_02B	Percentage active area, p	20.0 %	consisting of coarse materials with size not exceeding 37.5mm and AP42. Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
	Q2: 3_02A-1, 3_02B Q3: 3_02A-1, 3_02B	Emission Rate	1.6172E-07 g/m <sup>2</sup> /s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Third Runway Other	Q4: 3_02A-1, 3_02B Heavy construction	Percentage active area, p	1.3 %	
Construction Works/Facilities on	Source ID:			Assume % works area for heavy construction Water suppression 12 times a day
newly formed land	Q1: 21-2_01, 21-2_02A, 21-2_02B-1x, 21-2_02B-2, 21-2_03B, 21-2_05A, 21-2_05B-1x, 21-2_07A-1x, 21-2_07B, 21-2_09-1, 21-3_02A-2x	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 21-2_01, 21-2_02A, 21-2_02B-1x, 21-2_02B-2, 21-2_03B, 21-2_05A, 21-2_05B-1x, 21-2_07A-1x, 21-2_07B, 21-3_01A-1x, 21-3_01A-3, 21-4_01-	No. of working days per month, d	30 days	
	3x, 21-4_05-1 Q3: 21-2_01, 21-2_02A, 21-2_02B-1x, 21-2_02B-2, 21-2_03B, 21-2_05A, 21-2_05B-1x, 21-2_07A-1x, 21-2_07B, 21-3_01A-1x, 21-3_01A-3, 21-	No. of working hours per day, h	24 hour	
	3_01Bx, 21-4_01-3x, 21-4_05-1 Q4: 21-2_01, 21-2_02A, 21-2_02B-1x, 21-2_02B-2, 21-2_03B, 21-2_05A,	The morning hours per day, II		AP42. Section 13.2.3.3
	21-2_05B-1x, 21-2_07A-1x, 21-2_07B, 21-3_01A-1x, 21-3_01A-3, 21-4_01- 3x, 21-4_03-1x, 21-4_05-1	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	4.00967E-07 g/m <sup>2</sup> /s (unmitigated) 3.32803E-08 g/m <sup>2</sup> /s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion	Percentage active area, p	1.3 %	
	Source ID: (as above)			AP42, Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	1.04137E-08 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Airside tunnels (AT)	Heavy construction Source ID:	Percentage active area, p	0.6 %	Assume % works area for heavy construction
		Mitigation officiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: Q2: 21-AT1, 21-AT3	Mitigation efficiency No. of working days per month, d		Sources Final Report
	Q3: 21-AT1, 21-AT3 Q4: 21-AT1, 21-AT2, 21-AT3	No. of working hours per day, h	30 days 24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	1.9328E-07 g/m²/s (unmitigated) 1.60422E-08 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion			
	Source ID: (as above)	Percentage active area, p	0.6 %	AP42, Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	5.01974E-09 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Midfield development	Heavy construction Source ID:	Percentage active area, p	0.8 %	Assume % works area for heavy construction
(MD)		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 21-MD Q2: 21-MD	No. of working days per month, d	30 days	Sources Final Report
	Q3: 21-MD Q4: 21-MD	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	2.39763E-07 g/m²/s (unmitigated) 1.99004E-08 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion	Percentage active area, p	0.8 %	
	Source ID: (as above)			AP42, Table 11.9-4
		Emission Factor (0.3)	0.255 Mg/hectare/year	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	6.22698E-09 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
South Cargo	Heavy construction	Percentage active area, p	8.03 %	Assume % works area for heavy construction
Roadworks - at grade	Source ID:	Mitigation officiancy	01 7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: Q2:	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q3: 21-CA1x Q4: 21-CA1x Q4: 21-CA1x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	AP42, Section 13.2.3.3
		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	2 99824E-05 a/m <sup>2</sup> /e (upmiticated)	Assume road width equals 12m, therefore multiply emission rate by 12m.
			2.99824E-05 g/m²/s (unmitigated)	12m. =2.69*0.3*1000000/(10000*d*h*60*60)*p/100 * 12
	Wind Frosion		2.48854E-06 g/m <sup>2</sup> /s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	8.03 %	AP42 Table 11 9-4
		Percentage active area, p Emission Factor (0.3)		AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations. 1999
			8.03 %	

South Cargo	Heavy construction	Percentage active area, p	8.0 %	Assume % works area for heavy construction
Roadworks - viaduct	Source ID:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: Q2: Q3: 21-CA3x, 21-CA6x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	Sources Final Report
	Q4: 21-CA3x, 21-CA6x	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	3.12316E-06 g/m²/s (unmitigated)	Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile width + 50% extra for works) '=2.69*0.3*100000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
			2.59223E-07 g/m <sup>2</sup> /s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	8.0 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	6.48903E-08 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100
Roadworks Road 6 - viaduct (Concept F,	Heavy construction Source ID:	Percentage active area, p	5.4 %	Assume % works area for heavy construction
Option 3)	Q1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: Q3: 21-RF2x, 21-RF4x, 21-RF9x, 21-RF10x, 21-RF11x, 21-RF17x, 21-	No. of working days per month, d	30 days	
	RF16x, 21-RF19x, 21-RF21x, 21-RF25x, 21-RF26x, 21-RF29x, 21-RF30x, 21-RF33x, 21-RF35x, 21-RF36x, 21-RF37x	No. of working hours per day, h	24 hour	
	Q4: 21-RF2x, 21-RF4x, 21-RF9x, 21-RF10x, 21-RF11x, 21-RF17x, 21- RF16x, 21-RF19x, 21-RF21x, 21-RF25x, 21-RF26x, 21-RF29x, 21-RF30x, 21-RF33x, 21-RF35x, 21-RF36x, 21-RF37x	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	2.11822E-06 g/m²/s (unmitigated)	Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile width + 50% extra for works)
			1.75812E-07 g/m²/s (mitigated)	'=2.69*0.3*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
	Wind Erosion Source ID: (as above)	Percentage active area, p	5.4 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	4.40104E-08 g/m²/s	=0.85*0.3*1000000/(10000*365*24*60*60)*p/100

Wester 4		1	Devenueter	
Works Area rd Runway Land	Sources Heavy construction	Percentage active area, p	Parameter 0.6 %	Remarks
mation	Source ID: For 24hrs activities:	reicentage active area, p	0.0 %	Assume % works area for heavy construction
C	Q1: 22-3_02B	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2:	No. of working days per month, d	30 days	
	Q3: Q4: 22-3 02B	No. of working hours per day, h	24 hour	AP42, Section 13.2.3.3
Ì		Emission Factor (0.3)	0.807 Mg/hectare/month of activity	USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	1.97483E-07 g/m²/s (unmitigated) 1.63911E-08 g/m²/s (mitigated)	=2.69**0.3*1000000/(10000*30*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.6 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	5.12891E-09 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
	Wind Erosion Source ID:	Percentage active area, p	20.0 %	Based on scheme design of definition for sand fill materials consisting of coarse materials with size not exceeding 37.5mm and
	Q1:3_02A-1	Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
	Q2: 3_02A-1 Q3: 3_02B Q4:	Emission Rate	1.6172E-07 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
	Heavy construction	Percentage active area, p	2.5 %	
nstruction struction struction with struction with structure struc		Mitigation efficiency	91.7 %	Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
(	3x, 22-4_03-1x, 22-4_05-1 Q2: 22-2_01, 22-2_02A, 22-2_02B-1x, 22-2_02B-2, 22-2_03B, 22-2_05A, 22-2_05B-1x, 22-2_07A-1x, 22-2_07B, 22-3_01A-3, 22-3_02B, 22-4_03-1x, 22-4_05-1	No. of working days per month, d	30 days	Sources Final Report
c	Q3: 22-2_01, 22-2_02A, 22-2_02B-1x, 22-2_02B-2, 22-2_03B, 22-2_05A, 22-2_05B-1x, 22-2_07A-1x, 22-2_07B, 22-3_02A-1, 22-4_05-1	No. of working hours per day, h	24 hour	
	Q4: 22-2_01, 22-2_02A, 22-2_02B-1x, 22-2_03B, 22-2_05A, 22-2_05B-1x, 22-4_05-1	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from Construction Operations, 1999
		Emission Rate	7.85219E-07 g/m²/s (unmitigated) 6.51732E-08 g/m²/s (mitigated)	=2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	2.5 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	2.03932E-08 g/m <sup>2</sup> /s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
	Heavy construction Source ID:	Percentage active area, p	1.0 %	Assume % works area for heavy construction
	01- 22 AT1 22 AT2 22 AT2	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q1: 22-AT1, 22-AT2, 22-AT3 Q2: 22-AT2, 22-AT3 Q3: 22-AT3	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
C	Q4: 22-AT3	Emission Factor (0.3)	0.807 Mg/hectare/month of activity	AP42, Section 13.2.3.3 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	2.97537E-07 g/m²/s (unmitigated) 2.46956E-08 g/m²/s (mitigated)	Construction Operations, 1999 =2.69*0.3*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	1.0 %	
		Emission Factor (0.3)	0.255 Mg/hectare/year	AP42, Table 11.9-4 USEPA document Estimating Particulate Matter Emissions from
		Emission Rate	7.72744E-09 g/m²/s	Construction Operations, 1999 =0.85*0.3*1000000/(10000*365*24*60*60)*p/100
				Const

### Appendix 5.2.9 - Details of Dust Emission Sources for RSP Assessment (Tier 2)

### Barging Points, Crushing Plant, Concrete and Asphalt Batching Plants, C&D Stockpile and other Stockpiles

Description Barging Point	Sources	Parameter Particle size multiplier k	0.05	Emission Rate	Remarks
Barging Point	Unloading of spoils to barge Source ID: TBP1-6	Particle size multiplier, k Moisture content, M	0.35 5	%	For RSP, AP-42, section 13.2.4, 11/06 ed. Assume as the same as Express Rail Link and Extracted from SP License of XRL (Appendix C).
		Mean wind speed, U Emission Factor, E	4.9 4.40E-04	m/s ka/Ma	HKOAMO 2012 annual average wind speed $E=k \times (0.0016) \times ((U/2.2)^{+1.3}/(M/2)^{+1.4})$
		No. of operation hour		hr	(AP-42, section 13.2.4, 11/06 ed.) 26 days per month
		Maximum handling capcity for each barging point	47000	Mg/day kg/hr (Asphalt)	From engineer Assume 12 working hours (7:00 - 19:00) per day
		Emission height Mitigation efficiency	0.5	m	Installation of flexible curtain and shelter with water spray at discharge
		Emission Rate		g/s (mitigated)	point
Concrete Batching Plant	Paved haul road outside concrete batching plant -	Particle size multiplier, k Road surface silt loading, sL	12	g/VKT g/m2	AP-42, Section 13.2.1, Table 13.2.1-1, 01/11 ed. AP-42, Section 13.2.1, Table 13.2.1-3, 01/11 ed.
	For Laden Vehicle Source ID:	Average truck weight, W	28.3	tons	Full loading of Asphalt Tipper, engineering estimate
	WAB-HR1 to WAB-HR13 WAB-P4-HR1 to WAB-P4-HR10	Emission height	0.5	m	Assumed that vehicle will lift dust from the road surface and disperse
	WC-HR1 to WC-HR13 WC-P4-HR1 to WC-P4-HR10	RSP emission factor, E	190	g/VKT	from 0.5m height E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.) Asphalt Tipper
	EAB-HR1 to EAB-HR4		180	g/vK1	Asphar hpper
	EAC-HR1 to EAC-HR4	No. of truck trips per day		trips/hr trips/hr	From engineer, Asphalt Tipper Lorries in Asphalt Plant From Enginner, Asphalt Tipper Lorries in Concrete Batching Plant
	EC-HR1 to EC-HR14 EC-P2-HR1 to EC-P2-HR7	No. of operation hour % of dust suppression	12 97.5	hr	Assume as the same as Express Rail Link and Extracted from SP
					License of XRL (Appendix C).
		Emission Rate		g/m/s (mitigated) g/m/s (mitigated)	Asphalt Tipper Lorries in Asphalt Plant Asphalt Tipper Lorries in Concrete Batching Plant
Concrete Batching Plant	Paved haul road outside concrete batching plant - For <b>Unladen</b> Vehicle	Particle size multiplier, k Road surface silt loading, sL Average truck weight, W	12	g/VKT g/m2 tons	AP-42, Section 13.2.1, Table 13.2.1-1, 01/11 ed. AP-42, Section 13.2.1, Table 13.2.1-3, 01/11 ed. Empty loading of Asphalt Tipper, engineering estimate
	Source ID: WAB-HR1 to WAB-HR13	Emission height	0.5		Assumed that vehicle will lift dust from the road surface and disperse
	WAB-P4-HR1 to WAB-P4-HR10	RSP emission factor, E	0.0		from 0.5m height $E=kx$ (sL) <sup>0.91x</sup> (W) <sup>1.02</sup> (AP-42, section 13.2.1, 01/11 ed.)
	WC-HR1 to WC-HR13 WC-P4-HR1 to WC-P4-HR10	· ·····, -	51	g/VKT	Asphalt Tipper
	EAB-HR1 to EAB-HR4	No. of truck trips per day		trips/hr	From engineer, Asphalt Tipper Lorries in Asphalt Plant
	EAC-HR1 to EAC-HR4	No. of operation hour	12	trips/hr hr	From Enginner, Asphalt Tipper Lorries in Concrete Batching Plant
	EC-HR1 to EC-HR14 EC-P2-HR1 to EC-P2-HR7	% of dust suppression	97.5	%	Assume as the same as Express Rail Link and Extracted from SP License of XRL (Appendix C).
		Emission Rate	1 1E-05	g/m/s (mitigated)	Asphalt Tipper Lorries in Asphalt Plant
Concrete	Unloading aggregate	Consumption Rate (Western + Eastern)	4.97E-05	g/m/s (mitigated) g/m/s (mitigated) Mg/h (Asphalt)	Asphalt Tipper Lorries in Concrete Batching Plant From engineer: Asphalt: 300 ton/hr = 150 ton/hr x 2 plants
Batching Plant Unloading of raw	Source ID: (EP9)	Consumption Rate (Western only)	2000	Mg/h (Concrete) Mg/h (Asphalt)	From engineer: Concrete: 2000 ton/hr = 500 ton/hr x4 plants From engineer: Asphalt: 150 ton/hr
materials)	WAB-EP9, WAB-P4-EP9, WC-EP9, WC-P4-EP9	Particle size multiplier, k		Mg/h (Concrete)	From engineer: Concrete: 500 ton/hr For RSP, AP-42, section 13.2.4, 11/06 ed.
	EAB-EP9,	Moisture content, M		%	Assume as the same as Express Rail Link and Extracted from SP License of XRL (Appendix C).
	EC-EP9, EC-2-EP9, EC-3-EP9, EC-P2-EP9	Mean wind speed, U Emission Factor, E	4.9 1.59E-03	m/s kg/Mg	HKOAMO 2012 annual average wind speed E=k x (0.0016) x ((U/2.2)^1.3/(M/2)^1.4)
				kg/hr (Asphalt - Westen + Eastern)	(AP-42, section 13.2.4, 11/06 ed.)
			0.24	kg/hr (Concrete - Western +Eastern) kg/hr (Asphalt - Westen only)	
		Mitigation efficiency	0.79 99	kg/hr (Concrete - Western only) %	Assume as the same as Express Rail Link and Extracted from SP License of XRL (Appendix C).
		No. of operation hour Emission height	12	hr	
		Emission Rate (Western + Eastern) - Period 2 to 4	6.61E-04	g/s (mitigated) (Asphalt)	For each plant (150 ton/hr) Period 2 to 4: 150 ton/hr x 2 plants
			2.20E-03	g/s (mitigated) (Concrete)	For each plant (500ton/hr)
					Period 2: 500ton/hr x 2 plants Period 3&4: 500ton/hr x 4 plants
		Emission Rate (Western only) - Period 1	6.61E-04	g/s (mitigated) (Asphalt)	For 150 ton/hr only
Concrete	Small Cementitious Material Silos	Density		g/s (mitigated) (Concrete) Mg/m3	For 500 ton/hr only For Concrete & Asphalt density
Batching Plant (Cement / PFA	Source ID: (EP5-EP8)				Refer to this web "http://www.aqua-calc.com/page/density-table/substance/concrete-cor
Silos)	WAB-EP5 to EP8, WAB-P4-EP5 to EP8, WC-EP5 to EP8, WC-P4-EP5 to EP8	RSP emission factor (0.37)	18.5	mg/m3	and-blank-asphalt" Concretration limit, Annex I, A Guidance Note on the Best Praticable Means for Cement Works (Concrete Batching Plant), EPD
	EAB-EP5 to EP8, EC-EP5 to EP8, EC-2-EP5 to EP8, EC-3-EP5 to EP8,	Dust exhaust flow rate for each mixer (Total 4 sources)	60	tons/hr (Asphalt)	Assume volume displacement by loading material
	EC-P2-EP5 to EP8		1200	tons/hr (Concrete) m3/hr (Asphalt)	For concrete & Asphalt density: 2.24 tons/m3
		No. of operation hour	535.7	m3/hr (Concrete) hr	·····
		No. of small cement silos	4		Assume as the same as Express Rail Link and Extracted from SP License of XRL (Appendix C).
		Emission height	21 or 22	m	EP5: 21m, EP6-EP8: 22m Assume as the same as Express Rail Link and Extracted from SP
		Emission Rate (Total 4 sources)		g/s (mitigated) (Asphalt)	License of XRL (Appendix C).
		Emission Rate (Each source)	3.44E-05	g/s (mitigated) (Concrete) g/s (mitigated) (Asphalt) g/s (mitigated) (Concrete)	
	PFA weight Hopper Source ID: (EP3-EP4)	Emission Factor (without mitigation)	2.60E-03		Weight hopper loading (uncontrolled), AP-42, section 11.12-4, Table 11.12-1, 6/06 ed.
	WAB-EP3 to EP4, WAB-P4-EP3 to EP4,	Density	2.24	Mg/m3	For Concrete & Asphalt density Refer to this web
	WC-EP3 to EP4, WC-P4-EP3 to EP4				"http://www.aqua-calc.com/page/density-table/substance/concrete-co and-blank-asphalt"
	EAB-EP3 to EP4, EC-EP3 to EP4, EC-2-EP3 to EP4, EC-3-EP3 to EP4,	RSP emission factor Production rate (Total 2 sources)		m3/hr (Asphalt)	From engineer
	EC-P2-EP3 to EP4	Mitigation efficiency	429 99	m3/hr (Concrete) %	Total enclosure and fabric filter
		Emission height Emission Rate (Total 2 sources)		g/s (mitigated) (Asphalt)	
Concrete Batching Plant	Mixer Source ID: (EP1-EP2)	Density		g/s (mitigated) (Concrete) Mg/m3	For Concrete & Asphalt density Refer to this web
Batching Plant (Mixing Tower)	WAB-EP1 to EP2, WAB-P4-EP1 to EP2, WC-EP1 to EP2, WC-P4-EP1 to EP2				Refer to this web "http://www.aqua-calc.com/page/density-table/substance/concrete-co and-blank-asphalt"
	EAB-EP1 to EP2, WC-P4-EP1 to EP2	RSP emission factor (0.37)	18.5	mg/m3	and-blank-asphait Concretration limit, Annex I, A Guidance Note on the Best Praticable Means for Cement Works (Concrete Batching Plant), EPD
	EAB-EP1 to EP2, EC-EP1 to EP2, EC-2-EP1 to EP2, EC-3-EP1 to EP2, EC-P2-EP1 to EP2	Dust exhaust flow rate for each mixer (Total 2 sources)	60	tons/hr (Asphalt)	Assume volume displacement by loading material
			1200	tons/hr (Concrete) m3/hr (Asphalt)	For concrete & Asphalt density: 2.24 tons/m3
		No. of operation hour	535.7	m3/hr (Concrete) hr	
		No. of small cement silos Emission height	2 13	m	

### Appendix 5.2.9 - Details of Dust Emission Sources for RSP Assessment (Tier 2)

### Barging Points, Crushing Plant, Concrete and Asphalt Batching Plants, C&D Stockpile and other Stockpiles

tockpile within sphalt batching	Material handling and storage piles Source ID:	Percentage open stockpile area, p	20	%	80% stockpiling area is covered by impervious sheets and all dusty material should be sprayed with water immediately prior to any loading
ant in western cation	WABA1, WABA1-P4 WABA2, WABA2-P4	Particle size multiplier, k Moisture content, M	0.35 5	%	or transfer operation so as to keep the dusty material wet. k (particle size < 30µm) Assume worst case scenario
		Average wind speed, U		m/s	HKOAMO 2012 annual average wind speed
		Emission Factor, E Monthly output	0.000439721 335	kg/Mg m3/month (Asphalt)	E=k*0.0016*[(U/2.2)^1.3/(M/2)^1.4] From engineer
			5,250	m3/month (Aggregate)	From engineer
		Maximum hourly output, op	1.1	m3/hr (Asphalt)	26 days per month, 12 working hours per day
			16.8	m3/hr (Aggregate) Mg/hr (Asphalt)	Assume capacity of dump truck is 6m <sup>3</sup> and 15 tons
		Area of the Asphalt stockpile, A	42.1	Mg/hr (Aggregate) m <sup>2</sup> (Asphalt)	
		Area of the Aggregate stockpile, A	2,200	m <sup>2</sup> (Aggregate)	
		Emission Rate (Asphalt stockpile)	2.80234E-07	g/m <sup>2</sup> /s (unmitigated) g/m <sup>2</sup> /s (mitigated)	Unmitigated Emission Rate=E*1000*op/(A*60*60) Mitigated Emission Rate'=E*1000*op/(A*60*60)*p/100
		Emission Rate (Aggregate stockpile)	4.67237E-07	g/m²/s (unmitigated) g/m²/s (mitigated)	
	Wind erosion Source ID: As above	Percentage open stockpile area, p	20	% (unmitigated) % (mitigated)	80% stockpiling area is covered by impervious sheets
		Emission Factor (0.3) Emission Rate	8.086E-07	Mg/hectare/year g/m²/s (unmitigated)	AP42, Section 11.9.4 =0.3*0.85*1000000/(10000*365*24*60*60)*p/100
			1.6172E-07	g/m²/s (mitigated)	
lilled Material, trushed	Material handling and storage piles Source ID:	Percentage open stockpile area, p	20	%	80% stockpiling area is covered by impervious sheets and all dusty material should be sprayed with water immediately prior to any loading
ggregate and bub-base	WAR1, WAR1-P4	Particle size multiplier, k	0.35		or transfer operation so as to keep the dusty material wet. k (particle size < 30µm)
tockpile in vestern location	WCAS1, WCAS1-P4	Moisture content, M Average wind speed, U	5	% m/s	Assume worst case scenario HKOAMO 2012 annual average wind speed
	WSS1, WSS1-P4	Emission Factor, E	0.000439721		
		Monthly output	422	m3/month (Milled Material)	E=k*0.0016*[(U/2.2)^1.3/(M/2)^1.4] From engineer
			16,275	m3/month (Crushed Aggregate) m3/month (Sub-base stockpile)	From engineer From engineer
		Maximum hourly output, op		m3/hr (Milled Material) m3/hr (Crushed Aggregate)	26 days per month, 12 working hours per day
				m3/hr (Sub-base stockpile) Mg/hr (Milled Material)	Assume capacity of dump truck is 6m <sup>3</sup> and 15 tons
			121.6	Mg/hr (Crushed Aggregate) Mg/hr (Sub-base stockpile)	. Source supporty of comp truck is one drift to tons
		Area of the Milled Material stockpile, A	279	m <sup>2</sup> (Milled Material)	
		Area of the Crushed Aggregate stockpile, A Area of the Sub-base stockpile, A	5,822 6,209	m <sup>2</sup> (Crushed Aggregate) m <sup>2</sup> (Sub-base stockpile)	
		Emission Rate (Milled Material stockpile)	1.48173E-06	g/m²/s (unmitigated)	Unmitigated Emission Rate=E*1000*op/(A*60*60) Mitigated Emission Rate'=E*1000*op/(A*60*60)*p/100
		Emission Rate (Crushed Aggregate stockpile)	2.5523E-06	g/m²/s (unmitigated)	Initigated Emission Rate = E 1000 op/(A 60 60) p/100
		Emission Rate (Sub-base stockpile)	2.56521E-06	g/m²/s (mitigated) g/m²/s (unmitigated)	
	Wind erosion	Percentage open stockpile area, p		g/m <sup>2</sup> /s (mitigated) % (unmitigated)	
	Source ID: As above	Emission Factor (0.3)	20 0.255	% (mitigated) Mg/hectare/year	80% stockpiling area is covered by impervious sheets AP42, Section 11.9.4
		Emission Rate	8.086E-07	g/m²/s (unmitigated) g/m²/s (mitigated)	=0.3*0.85*1000000/(10000*365*24*60*60)*p/100
Stockpile within	Material handling and storage piles	Percentage open stockpile area, p		9,o (gatod)	80% stockpiling area is covered by impervious sheets and all dusty
sphalt batching			20		material should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet.
ocation		Particle size multiplier, k	0.35		k (particle size < 30µm)
		Moisture content, M Average wind speed, U	5 4.9	% m/s	Assume worst case scenario HKOAMO 2012 annual average wind speed
		Emission Factor, E	0.000439721	kg/Mg	E=k*0.0016*[(U/2.2)^1.3/(M/2)^1.4]
		Monthly output	67	m3/month (Asphalt)	From engineer
			1,050	m3/month (Aggregate)	From engineer
		Maximum hourly output, op		m3/hr (Asphalt)	26 days per month, 12 working hours per day
			0.5	m3/hr (Aggregate) Mg/hr (Asphalt)	Assume capacity of dump truck is 6m <sup>3</sup> and 15 tons
		Area of the Asphalt stockpile, A		Mg/hr (Aggregate) m <sup>2</sup> (Asphalt)	
		Area of the Aggregate stockpile, A Emission Rate (Asphalt stockpile)	562	m <sup>2</sup> (Aggregate) g/m <sup>2</sup> /s (unmitigated)	Unmitigated Emission Rate=E*1000*op/(A*60*60)
			8.53371E-08	g/m²/s (mitigated)	Mitigated Emission Rate'=E*1000*op/(A*60*60)*p/100
		Emission Rate (Aggregate stockpile)	3.65941E-07	g/m <sup>2</sup> /s (unmitigated) g/m <sup>2</sup> /s (mitigated)	
	Wind erosion Source ID: As above	Percentage open stockpile area, p	20	% (unmitigated) % (mitigated)	80% stockpiling area is covered by impervious sheets
		Emission Factor (0.3) Emission Rate	0.255	Mg/hectare/year g/m²/s (unmitigated)	AP42, Section 11.9.4 =0.3*0.85*1000000/(10000*365*24*60*60)*p/100
				g/m <sup>2</sup> /s (mitigated)	
Stockpile within	Material handling and storage piles	Percentage open stockpile area, p	20	%	80% stockpiling area is covered by impervious sheets and all dusty
Airfield batching Iant in eastern	Source ID: EACC1, EACA1				material should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet.
ocation		Particle size multiplier, k Moisture content, M	0.35	%	k (particle size < 30µm) Assume worst case scenario
		Average wind speed, U	4.9	m/s	HKOAMO 2012 annual average wind speed
		Emission Factor, E Monthly output	0.000439721	kg/Mg m3/month (Cement)	E=k*0.0016*[(U/2.2)^1.3/(M/2)^1.4] From engineer
				. ,	
				m3/month (Aggregate)	From engineer
		Maximum hourly output, op	44.3	m3/hr (Cement) m3/hr (Aggregate)	26 days per month, 12 working hours per day
			110.8	Mg/hr (Cement) Mg/hr (Aggregate)	Assume capacity of dump truck is 6m <sup>3</sup> and 15 tons
		Area of the Cement stockpile, A Area of the Aggregate stockpile, A	1,163	m <sup>2</sup> (Cement) m <sup>2</sup> (Aggregate)	
		Emission Rate (Cement stockpile)	2.13755E-06	g/m <sup>2</sup> /s (unmitigated)	Unmitigated Emission Rate=E*1000*op/(A*60*60)
		Emission Rate (Aggregate stockpile)	2.53887E-06	g/m²/s (mitigated) g/m²/s (unmitigated)	Mitigated Emission Rate'=E*1000*op/(A*60*60)*p/100
	Wind erosion	Percentage open stockpile area, p	100	g/m <sup>2</sup> /s (mitigated) % (unmitigated)	
	Source ID: As above	Emission Factor (0.3)	20 0.255	% (mitigated) Mg/hectare/year	80% stockpiling area is covered by impervious sheets AP42, Section 11.9.4
		Emission Rate	8.086E-07	g/m²/s (unmitigated) g/m²/s (mitigated)	=0.3*0.85*1000000/(10000*365*24*60*60)*p/100
tockpile within	Material handling and storage piles	Percentage open stockpile area, p		9/11/3 (Initigated)	80% stockpiling area is covered by impervious sheets and all dusty
Concrete Satching Plant in	Source ID:	. Soomago open stompile alea, p	20		material should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet.
astern location	_ / _ /	Particle size multiplier, k	0.35		k (particle size < 30µm)
	ECA1_2, ECA1_3, ECA1-P2	Moisture content, M Average wind speed, U		% m/s	Assume worst case scenario HKOAMO 2012 annual average wind speed
		Emission Factor, E	0.000439721	kg/Mg	E=k*0.0016*[(U/2.2)^1.3/(M/2)^1.4]
		Monthly output		m3/month (Cement)	From engineer
		Maximum boude estast es		m3/month (Aggregate)	From engineer
		Maximum hourly output, op	554.7	m3/hr (Cement) m3/hr (Aggregate)	26 days per month, 12 working hours per day
			1386.8	Mg/hr (Cement) Mg/hr (Aggregate)	Assume capacity of dump truck is 6m <sup>3</sup> and 15 tons
		Area of the Cement stockpile, A Area of the Aggregate stockpile, A	3,944	m2 (Cement) m2(Aggregate)	
		Emission Rate (Cement stockpile)	1.0738E-05	g/m <sup>2</sup> /s (unmitigated)	Unmitigated Emission Rate=E*1000*op/(A*60*60) Mitigated Emission Rate=E*1000*op/(A*60*60)*p/100
		Emission Rate (Aggregate stockpile)	1.16662E-05	g/m²/s (mitigated) g/m²/s (unmitigated)	Mitigated Emission Rate'=E*1000*op/(A*60*60)*p/100
	Wind erosion	Percentage open stockpile area, p	100	g/m <sup>2</sup> /s (mitigated) % (unmitigated)	
	Source ID: As above			% (mitigated)	80% stockpiling area is covered by impervious sheets
		Emission Factor (0.3)	0.255	Mg/hectare/year	AP42, Section 11.9.4

### Barging Points, Crushing Plant, Concrete and Asphalt Batching Plants, C&D Stockpile and other Stockpiles

Description	Sources	Parameter		Emission Rate	Remarks
Crushed Aggregate	Material handling and storage piles Source ID:	Percentage open stockpile area, p	20	%	80% stockpiling area is covered by impervious sheets and all dusty material should be sprayed with water immediately prior to any loading
Stockpile in eastern location	ECA2, ECA2-P2	Particle size multiplier, k Moisture content, M		5 %	or transfer operation so as to keep the dusty material wet. k (particle size < 30µm) Assume worst case scenario
		Average wind speed, U		m/s	HKOAMO 2012 annual average wind speed
		Emission Factor, E Monthly output	0.000439721 4,364	kg/Mg m3/month	E=k*0.0016*[(U/2.2)^1.3/(M/2)^1.4] From engineer
		Maximum hourly output, op		) m3/hr ) Mg/hr	26 days per month, 12 working hours per day Assume capacity of dump truck is 6m <sup>3</sup> and 15 tons
		Area of the stockpile, A	1,866	6 m2	
		Emission Rate		g/m <sup>2</sup> /s (unmitigated) g/m <sup>2</sup> /s (mitigated)	Unmitigated Emission Rate=E*1000*op/(A*60*60) Mitigated Emission Rate'=E*1000*op/(A*60*60)*p/100
	Wind erosion Source ID: As above	Percentage open stockpile area, p	100	% (unmitigated) % (mitigated)	80% stockpiling area is covered by impervious sheets
		Emission Factor (0.3) Emission Rate	0.255 8.086E-07	/ g/hectare/year / g/m²/s (unmitigated) / g/m²/s (mitigated)	AP42, Section 11.9.4 =0.3*0.85*1000000/(10000*365*24*60*60)*p/100
C&D Stockpile	Material handling and storage piles	Percentage open stockpile area, p	20	0 %	80% stockpiling area is covered by impervious sheets and all dusty
near seawall	Source ID: CD1				material should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet.
		Particle size multiplier, k Moisture content, M Average wind speed, U	0.35 5 4.9		k (particle size < 30µm) Assume worst case scenario HKOAMO 2012 annual average wind speed
		Emission Factor, E	0.000439721	ka/Ma	E=k*0.0016*[(U/2.2)^1.3/(M/2)^1.4]
		Monthly output		'm3/month	From engineer
		Maximum hourly output, op		m3/hr	26 days per month, 12 working hours per day
		Area of the stockpile, A	7.5 3,900	Mg/hr m2	Density of C&D material: 2Mg/m3 (from engineer)
		Emission Rate	2.34225E-07	g/m²/s (unmitigated) g/m²/s (mitigated)	Unmitigated Emission Rate=E*1000*op/(A*60*60)
	Wind erosion	Percentage open stockpile area, p	100	% (unmitigated)	Mitigated Emission Rate'=E*1000*op/(A*60*60)*p/100
	Source ID: As above	Emission Factor (0.3)		% (mitigated) Mg/hectare/year	80% stockpiling area is covered by impervious sheets AP42, Section 11.9.4
		Emission Rate	8.086E-07	' g/m²/s (unmitigated) ' g/m²/s (mitigated)	=0.3*0.85*1000000/(10000*365*24*60*60)*p/100
C&D Stockpile at nidfield	Material handling and storage piles Source ID:	Percentage open stockpile area, p	20	%	80% stockpiling area is covered by impervious sheets and all dusty material should be sprayed with water immediately prior to any loading
	CD2, CD3	Destints size excluted on th	0.05		or transfer operation so as to keep the dusty material wet.
		Particle size multiplier, k Moisture content, M	0.35 5		k (particle size < 30µm) Assume worst case scenario
		Average wind speed, U	4.9	m/s	HKOAMO 2012 annual average wind speed
		Emission Factor, E	0.000439721		E=k*0.0016*[(U/2.2)^1.3/(M/2)^1.4]
		Monthly output	33,222	2 m3/month	From engineer
		Maximum hourly output, op		m3/hr Mg/hr	26 days per month, 12 working hours per day Density of C&D material: 2Mg/m3 (from engineer)
		Area of the stockpile, A	8,100	) m2	
		Emission Rate		g/m <sup>2</sup> /s (unmitigated) g/m <sup>2</sup> /s (mitigated)	Unmitigated Emission Rate=E*1000*op/(A*60*60) Mitigated Emission Rate'=E*1000*op/(A*60*60)*p/100
	Wind erosion Source ID: As above	Percentage open stockpile area, p	100	% (unmitigated) % (mitigated)	80% stockpiling area is covered by impervious sheets
	Source ID. As above	Emission Factor (0.3)	0.255	Mg/hectare/year	AP42, Section 11.9.4
		Emission Rate		g/m <sup>2</sup> /s (unmitigated) g/m <sup>2</sup> /s (mitigated)	=0.3*0.85*1000000/(10000*365*24*60*60)*p/100
Crushing Plant	Screening				
Siusining Fiant	Source ID: CP1, CP2	RSP emission factor (0.3)	15	mg/m3	Concretration limit, Annex I, A Guidance Note on the Best Praticable
		Density of rock	1760	) Kg/m3	Means for Mineral Works (Stone Crushing Plants), EPD Assume the same as approved EIA South East New Territories (SENT)
					Landfill Extension (EIA-143/2007) Annex A2
		Maximum handling capcity	700	) Mg/hr	From engineer
		No. of operation hour	12	hr	
		Emission height Emission Rate	15	m g/s (mitigated)	
Crushing Plant	Tertiary Crushing				
	Source ID: CP1, CP2	RSP emission factor (0.3)	15	mg/m3	Concretration limit, Annex I, A Guidance Note on the Best Praticable Means for Mineral Works (Stone Crushing Plants), EPD
		Density of rock	1760	Kg/m3	Assume the same as approved EIA South East New Territories (SENT) Landfill Extension (EIA-143/2007) Annex A2
			700	NA- //	
		Maximum handling capcity	700	Mg/hr	From engineer
		No. of operation hour Emission height		2 hr 5 m	
	-	Emission Rate	1.66E-03	g/s (mitigated)	
Crushing Plant	Paved haul road outside crushing plant -	Particle size multiplier, k Road surface silt loading, sL		2 g/VKT 2 g/m2	AP-42, Section 13.2.1, Table 13.2.1-1, 01/11 ed. AP-42, Section 13.2.1, Table 13.2.1-3, 01/11 ed.
	For Laden Vehicle Source ID:	Average truck weight, W		tons	Full loading of truck, assume the same as Asphalt Tipper, engineering estimate
					estimate
	WAB-HR1 to WAB-HR13 WC-HR1 to WC-HR13	Emission height	0.5	i m	Assumed that vehicle will lift dust from the road surface and disperse
		RSP emission factor. E			from 0.5m height E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.)
			180	g/VKT	Truck
		No. of truck trips per day	66	trips/hr	From engineer:
					700Mg/hr * (1/(6m3/veh)) * (1/1760 kg/m3) * 1000 Assume density = 1760kg/m3, truck loading = 6m3/veh
		No. of operation hour % of dust suppression	12 97.5	hr %	Assume as the same as Express Rail Link and Extracted from SP
					License of XRL (Appendix C).
		Emission Rate		g/m/s (mitigated)	Truck for crushing plant
Crushing Plant	Paved haul road outside crushing plant -	Particle size multiplier, k Road surface silt loading, sL		2 g/VKT 2 g/m2	AP-42, Section 13.2.1, Table 13.2.1-1, 01/11 ed. AP-42, Section 13.2.1, Table 13.2.1-3, 01/11 ed.
	For <b>Unladen</b> Vehicle	Average truck weight, W		tons	Empty loading of truck, assume the same as Asphalt Tipper, engineer
	Source ID:				estimate
	WAB-HR1 to WAB-HR13	Emission height	0.5	i m	Assumed that vehicle will lift dust from the road surface and disperse
	WC-HR1 to WC-HR13	RSP emission factor. E			from 0.5m height
			51	g/VKT	E=k x (sL)^0.91x (W)^1.02 (AP-42, section 13.2.1, 01/11 ed.) Truck
		No. of truck trips per day	66	trips/hr	From engineer:
					700Mg/hr * (1/(6m3/veh)) * (1/1760 kg/m3) * 1000 Assume density = 1760kg/m3, truck loading = 6m3/veh
		No. of operation hour	10	hr	
		No. of operation hour % of dust suppression	12 97.5		Assume as the same as Express Rail Link and Extracted from SP
			1	1	License of XRL (Appendix C).
		Emission Rate		g/m/s (mitigated)	Truck for crushing plant

### Floating Concrete Batching Plant

Description	Sources	Parameter		Emission Rate	Remarks
loating Concrete	Unloading aggregate	Consumption Rate		Mg/h (Concrete)	From engineer: Concrete: 39.6 ton/hr = 1900 ton / (2 days * 24 h)
	Source ID:	Aggregate tank capacity		tons	From engineer
Inloading of raw aterials)	F-EP1	Refill frequency	2	days	From engineer
alenais)		Particle size multiplier, k	0.35		For RSP, AP-42, section 13.2.4, 11/06 ed.
		Moisture content, M		%	Assume as the same as land-based CBP
		Mean wind speed, U	4.9	m/s	HKOAMO 2012 annual average wind speed
		Emission Factor, E	1.59E-03	kg/Mg	E=k x (0.0016) x ((U/2.2)^1.3/(M/2)^1.4)
					(AP-42, section 13.2.4, 11/06 ed.)
			0.06	kg/hr (Concrete)	
		Mitigation efficiency	99	%	Fully covered and handling with water spraying system (From engineer
		No. of operation hours	04	hr	
		Emission height		m	Assume worst case From engineer
		Emission Rate		g/s (mitigated) (Concrete)	
		Density	2.24	Mg/m3	For Concrete density, refer to this website
Cement / PFA /	Source ID:				"http://www.aqua-calc.com/page/density-table/substance/concrete-co and-blank-asphalt"
	F-EP2	RSP emission factor (0.37)	18.5	mg/m3	Concretration limit, Annex I, A Guidance Note on the Best Praticable
,					Means for Cement Works (Concrete Batching Plant), EPD
		Cement silo capacity (Each silo)		tons	From engineer
		Refill frequency		days	From engineer
		Dust exhaust flow rate (Total 4 silos)		tons/hr (Concrete)	From engineer: 7.33 ton/hr = 4 silos * (110 ton / (2.5 days * 24 h))
			3.3	m3/hr (Concrete)	For concrete density: 2.24 tons/m3
		No. of operation hours	24	hr	Assume worst case
		No. of small cement silos	4		From engineer
		Emission height		m	From engineer
		Emission Rate (Total 4 silos)	1.68E-05	g/s (mitigated) (Concrete)	
	PFA Silos	Density	2.24	Mg/m3	For Concrete density, refer to this website
	Source ID:	Density	2.24	Nig/113	"http://www.aqua-calc.com/page/density-table/substance/concrete-co
					and-blank-asphalt"
	F-EP3	RSP emission factor (0.37)	18.5	mg/m3	Concretration limit, Annex I, A Guidance Note on the Best Praticable
					Means for Cement Works (Concrete Batching Plant), EPD
		PFA silo capacity (Each silo)	90	tons	From engineer
		Refill frequency		days	From engineer
		Dust exhaust flow rate (Total 2 silos)		tons/hr (Concrete)	From engineer: 3.75 ton/hr = 2 silos * (90 ton / (2 days * 24 h))
			1.7	m3/hr (Concrete)	For concrete density: 2.24 tons/m3
		No. of operation hours	24	hr	Assume worst case
		No. of PFA silos	2		From engineer
		Emission height		m	From engineer
		Emission Rate (Total 2 silos)	8.60E-06	g/s (mitigated) (Concrete)	
	CSF Silos	Density	2.24	Mg/m3	For Concrete density, refer to this website
	Source ID:	Density	2.24	Nig/110	"http://www.aqua-calc.com/page/density-table/substance/concrete-co
					and-blank-asphalt"
	F-EP4	RSP emission factor (0.37)	18.5	mg/m3	Concretration limit, Annex I, A Guidance Note on the Best Praticable Means for Cement Works (Concrete Batching Plant), EPD
		CSF silo capacity (Each silo)	30	tons	From engineer
		Refill frequency	5	days	From engineer
		Dust exhaust flow rate (Total 2 silos)	0.50	tons/hr (Concrete)	From engineer: 0.5 ton/hr = 2 silos * (30 ton / (5 days * 24 h))
			0.2	m3/hr (Concrete)	For concrete density: 2.24 tons/m3
		No. of operation hours		hr	Assume worst case
		No. of CSF silos	2		From engineer
		Emission height		m	From engineer
		Emission Rate (Total 2 silos)	1.13E-06	g/s (mitigated) (Concrete)	
loating Concrete	Mixer	Density	2.24	Mg/m3	For Concrete density, refer to this website
atching Plant	Source ID:				"http://www.aqua-calc.com/page/density-table/substance/concrete-co
Mixing Tower)					and-blank-asphalt"
	F-EP5	RSP emission factor (0.37)	18.5	mg/m3	Concretration limit, Annex I, A Guidance Note on the Best Praticable Means for Cement Works (Concrete Batching Plant), EPD
		Dust exhaust flow rate (Total 2 mixers)	560	tons/hr (Concrete)	From engineer: 280 ton/hr * 2 mixers
				. ,	
			250.0	m3/hr (Concrete)	For concrete density: 2.24 tons/m3
		No. of operation hours		hr	Assume worst case
		No. of mixers Emission height	2	_	From engineer
	1	IETOISSION NEION	17	m	From engineer
		Emission Rate (Total 2 mixers)		g/s (mitigated) (Concrete)	

Works Ar	Courses		Parameter	Demestre
Works Area	Sources Heavy construction	Percentage active area, p	Parameter 30.0 %	Remarks
	Source ID:	0		Assume % works area for heavy construction
ubmarine cable	Q1: Q2:	Mitigation efficiency No. of working days per month, d	91.7 % 30 days	Water suppression 12 times a day
	Q3: 15-S1, 15-S3x	No. of working hours per day, h	24 hour	
	Q4: 15-S1, 15-S3x	Emission Factor	2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
		Emission Rate	3.11343E-05 g/m <sup>2</sup> /s (unmitigated) 2.58414E-06 g/m <sup>2</sup> /s (mitigated)	=2.69*100000/(10000*d*h*60*60)*p/100
			2.30414E-00 g/m-/s (miligaled)	
	Wind Erosion	Percentage active area, p	30 %	
	Source ID: (as above)	Emission Factor	0.85 Mg/hectare/year	AP42, Table 11.9-4
		Emission Rate	8.086E-07 g/m <sup>2</sup> /s	=0.85*1000000/(10000*365*24*60*60)*p/100
(Concurrent project)	Heavy construction	Percentage active area, p	66.3 %	Assume O/ warks area for basis, construction
	Source ID:			Assume % works area for heavy construction
NCD works		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1:			Sources Final Report
	Q2: Q3: 15-NCD1-2x, 15-TRD2, 15-TCPN-1x, 15-EGC5x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4: 15-NCD1-2x, 15-NCD2-2x, 15-TRD2, 15-TRD3x, 15-TCPN-	Emission Factor		AD40. Section 12.0.0.2
	1x, 15-SCCP1, 15-EGC2x, 15-EGC3x, 15-EGC5x		2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
		Emission Rate	6.88451E-05 g/m²/s (unmitigated) 5.71414E-06 g/m²/s (mitigated)	=2.69*100000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	66.3 %	
		Emission Factor	0.85 Mg/hectare/year	AP42, Table 11.9-4
		Emission Rate	1.788E-06 g/m²/s	=0.85 <sup>*</sup> 1000000/(10000*365*24*60*60)*p/100
			I	
(Concurrent project)		Percentage active area, p	42.4 %	Assume % works area for heavy construction
	Source ID:			Water suppression 12 times a day
ITT works (area sources)	Q1: 15-SCCP1, 15-AES6, 15-AES13x, 15-EM2x, 15-EGC3x, 15-	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	ПТТ1	- /		Sources Final Report
	Q2: 15-SCCP1, 15-AES6, 15-AES13x, 15-EM2x, 15-EGC3x, 15- ITT1	No. of working days per month, d	30 days	
	Q3: 15-SCCP1, 15-AES6, 15-AES13x, 15-EM2x, 15-EGC3x, 15- ITT1	No. of working hours per day, h	24 hour	
	Q4: 15-EM2x, 15-ITT1	Emission Factor	2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
		Emission Rate	4.39856E-05 g/m <sup>2</sup> /s (unmitigated)	=2.69*1000000/(10000*d*h*60*60)*p/100
			3.6508E-06 g/m²/s (mitigated)	
	Wind Erosion		40.4.9/	
	Source ID: (as above)	Percentage active area, p	42.4 %	
		Emission Factor Emission Rate	0.85 Mg/hectare/year 1.14237E-06 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
			1.142072 00 g/m/3	-0.00 1000000 (10000 000 24 00 00) p/100
		1		
(Concurrent project)	Source ID:	Percentage active area, p	42.38 %	Assume % works area for heavy construction
ITT works (line				Water suppression 12 times a day
sources)	Q1: 15-SCRE2x, 15-SCRE5x, 15-AES2x, 15-AES9x, 15-AES11x	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
Roadworks - at grade	ON 15 SODERY 15 SODEEY 15 AESNY 15 AESNY 15 AESNY	No. of working days per month, d	30 days	Sources Final hepot
grade	Q3: 15-SCRE2x, 15-SCRE5x, 15-AES2x, 15-AES9x, 15-AES11x			
	Q3. 13-30HE2X, 13-30HE3X, 13-AE32X, 13-AE39X, 13-AE311X	No. of working hours per day, h	24 hour	
	Q4:	Emission Factor	2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
		Emission Rate	0.000527827 g/m <sup>2</sup> /s (unmitigated)	Assume road width equals 12m, therefore multiply emission rate by 12m.
			0.000027027 g/m/3 (unimigated)	=2.69*1000000/(10000*d*h*60*60)*p/100 * 12
			4.38096E-05 g/m <sup>2</sup> /s (mitigated)	
	Wind Erosion	Deve entens time	40.00.27	
	Source ID: (as above)	Percentage active area, p	42.38 %	
		Emission Factor Emission Rate	0.85 Mg/hectare/year 1.14237E-06 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
				-0.00 1000000/(10000 000 24 00 00) p/100
10	l la su			
(Concurrent project)	Heavy construction Source ID:	Percentage active area, p	30.0 %	Extracted from HKBCF EIA, assume 10% works area for heavy construction
Boundary Crossing	Q1: 15-BCF-C1x, 15-BCF-C4	Mitigation efficiency	87.5 %	Extracted from HKBCF EIA
Facilities (BCF)	Q2: 15-BCF-C1x, 15-BCF-C4	No. of working days per month, d	26 days	Extracted from HKBCF EIA
	Q3: 15-BCF-C1x, 15-BCF-C4 Q4: 15-BCF-C1x, 15-BCF-C4	No. of working hours per day, h Emission Factor	12 hour 2.69 Mg/hectare/month of activity	Extracted from HKBCF EIA AP42, Section 13.2.3.3
		Emission Factor Emission Rate	7.18483E-05 g/m <sup>2</sup> /s (unmitigated)	=2.69*1000000/(10000*d*h*60*60)*p/100
			8.98104E-06 g/m <sup>2</sup> /s (mitigated)	
	Wind Erosion			
	Source ID: (as above)	Percentage active area, p	30 %	
		Emission Factor	0.85 Mg/hectare/year	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
		Emission Rate	8.086E-07 g/m²/s	=0.03 100000/(10000 200 24 00 00) p/100
(Concurrent project)	Heavy construction Source ID:	Percentage active area, p	30.0 %	Extracted from HKLR EIA, assume 10% works area for heavy
Hong Kong Link	Q1: 15-LR-2x, 15-LR-10x, 15-LR-14	Mitigation efficiency	87.5 %	construction Extracted from HKLR EIA
Road (HKLR)	Q2:	No. of working days per month, d	26 days	Extracted from HKLR EIA
	Q3:	No. of working hours per day, h	12 hour	Extracted from HKLR EIA
	Q4:	Emission Factor Emission Rate	2.69 Mg/hectare/month of activity 7.18483E-05 g/m <sup>2</sup> /s (unmitigated)	AP42, Section 13.2.3.3 =2.69*1000000/(10000*d*h*60*60)*p/100
			8.98104E-06 g/m²/s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	30 %	
		Percentage active area, p Emission Factor Emission Rate	30 % 0.85 Mg/hectare/year 8.086E-07 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100

Sources Heavy construction Source ID: For 24hrs activities:	Percentage active area, p	Parameter 0.4 %	Remarks
Source ID:	r ercentage active area, p	0.4 70	
			Assume % works area for heavy construction
Q1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
Q2:	No. of working days per month, d	30 days	
Q3:	No. of working hours per day, h	24 hour	
Q4: 16-1_03-1x, 16-1_08A-1, 16-1_08A-2, 16-1_08B-1, 16-		2.69 Mg/bectare/month of activity	AP42, Section 13.2.3.3
1_08B-2, 16-2_04-1x, 16-2_06-2x	Emission Rate		=2.69*1000000/(10000*30*h*60*60)*p/100
		3.16053E-08 g/m <sup>2</sup> /s (mitigated)	
Source ID: (as above)	Percentage active area, p Emission Factor	0.4 % 0.85 Mg/bectare/year	AP42, Table 11.9-4
	Emission Rate	9.88957E-09 g/m²/s	=0.85*1000000/(10000*365*24*60*60)*p/100
Heavy construction	Percentage active area, n	30.0.%	
Source ID:			Assume % works area for heavy construction
Q1: 16-S1, 16-S3x Q2: 16-S1, 16-S3x		91.7 % 30 days	Water suppression 12 times a day
Q3: 16-S1, 16-S3x	No. of working hours per day, h	24 hour 2.60 Ma/basters/menth of activity	AP42, Section 13.2.3.3
u <del>n</del> .	Emission Rate	3.11343E-05 g/m²/s (unmitigated) 2.58414E-06 g/m²/s (mitigated)	=2.69*1000000/(10000*d*h*60*60)*p/100
Wind Erosion Source ID: (as above)	Percentage active area, p	30 %	
	Emission Factor Emission Rate	0.85 Mg/hectare/year 8.086E-07 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
Heavy construction Source ID:	Percentage active area, p	26.0 %	Assume % works area for heavy construction
Q1: 16-NCD1-2x, 16-NCD2-2x, 16-TRD2, 16-TCPN-1x, 16- SCCP1, 16-EGC2x, 16-EGC3x, 16-EGC5x	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
Q2: 16-NCD1-2x, 16-NCD2-2x, 16-TRD2, 16-TRD3x, 16-TCPN-	No. of working days per month, d	30 davs	
Q3: 16-NCD1-2x, 16-NCD2-2x, 16-TRD2, 16-TRD3x, 16-TCPN-			
Q4: 16-NCD1-2x, 16-NCD2-2x, 16-TRD2, 16-TRD3x, 16-TCPN-			AP42, Section 13.2.3.3
1x, 16-SCCP1, 16-EGC2x, 16-EGC3x, 16-EGC5x	Emission Rate	2.70222E-05 g/m²/s (unmitigated) 2.24284E-06 g/m²/s (mitigated)	=2.69*1000000/(10000*d*h*60*60)*p/100
Wind Erosion Source ID: (as above)	Percentage active area, p	26.0 %	
	Emission Factor Emission Rate	0.85 Mg/hectare/year 7.01804E-07 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
Heavy construction	Percentage active area, p	38.2 %	Assume % works area for heavy construction
. עו שטוועט.	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
Q1: 16-AES6, 16-EM2x, 16-ITT1 Q2: 16-AES6, 16-EM2x, 16-ITT1	No of working days per month d	30 days	Sources Final Report
Q3: 16-AES6, 16-EM2x, 16-ITT1	No. of working hours per day, h	24 hour	
Q4: 16-AES6, 16-EM2X, 16-1111	Emission Factor Emission Rate	2.69 Mg/hectare/month of activity 3.96949E-05 g/m <sup>2</sup> /s (unmitigated) 3.29468E-06 g/m <sup>2</sup> /s (mitigated)	AP42, Section 13.2.3.3 =2.69*1000000/(10000*d*h*60*60)*p/100
Wind Erosion	Percentage active area, p	38.2 %	
Source ID: (as above)	Emission Factor Emission Rate	0.85 Mg/hectare/year 1.03093E-06 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
Heavy construction	Percentage active area in	38.25 %	
Source ID:			Assume % works area for heavy construction Water suppression 12 times a day
Q1: 16-AES2x, 16-AES9x, 16-AES11x Q2: 16-AES2x, 16-AES9x, 16-AES11x			Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
Q3: 16-AES2x, 16-AES9x, 16-AES11x Q4: 16-AES2x, 16-AES9x, 16-AES11x	No. of working hours per day, h Emission Factor	24 hour 2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
	Emission Rate	0.000476339 g/m <sup>2</sup> /s (unmitigated)	Assume road width equals 12m, therefore multiply emission rate by 12m.
		3.95361E-05 g/m <sup>2</sup> /s (mitigated)	=2.69*1000000/(10000*d*h*60*60)*p/100 * 12
Wind Erosion Source ID: (as above)	Percentage active area, p	38.25 %	
	Emission Factor Emission Rate	0.85 Mg/hectare/year 1.03093E-06 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
Heavy construction Source ID:	Percentage active area, p	1.6 %	Assume % works area for heavy construction
	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
Q2: 16-TRD5x	No. of working days per month, d	30 days	Sources Final Report
Q3: 16-TRD5x Q4:	No. of working hours per day, h Emission Factor Emission Rate	24 hour 2.69 Mg/hectare/month of activity 1.68109E-06 g/m²/s (unmitigated) 1.39531E-07 g/m²/s (mitigated)	AP42, Section 13.2.3.3 =2.69*1000000/(10000*d*h*60*60)*p/100
Wind Erosion Source ID: (as above)	Percentage active area, p	1.6 %	
	Emission Factor Emission Rate	0.85 Mg/hectare/year 4.36603E-08 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
	Q4: 16-1_03-1x, 16-1_08A-1, 16-1_08B-2, 16-1_08B-1, 16- 1_08B-2, 16-2_04-1x, 16-2_06-2x Wind Erosion Source ID: (as above) Heavy construction Source ID: (as above) Wind Erosion Source ID: (as above) Heavy construction Source ID: (a	Or Tish L05-1x, 16-1, 08-1, 16-1, 08-2, 16-1, 08-2, 16-2, 08-2, 16-2, 08-2, 16-2, 08-2, 16-2, 08-2, 16-2, 08-2, 16-2, 08-2, 16-2, 08-2, 16-2, 1	Charter Computer Address and Addres Address and Address and Address and Address and Address

(Concurrent project)	Heavy construction Source ID:	Percentage active area, p	30.0 %	Extracted from HKBCF EIA, assume 10% works area for heavy construction
Boundary Crossing Facilities (BCF)	Q1: 16-BCF-C4 Q2: 16-BCF-C4 Q3: 16-BCF-C4 Q4: 16-BCF-C4	Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor Emission Rate	87.5 % 26 days 12 hour 2.69 Mg/hectare/month of activity 7.18483E-05 g/m²/s (unmitigated) 8.98104E-06 g/m²/s (mitigated)	Extracted from HKBCF EIA Extracted from HKBCF EIA Extracted from HKBCF EIA AP42, Section 13.2.3.3 =2.69*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p Emission Factor Emission Rate	30 % 0.85 Mg/hectare/year 8.086E-07 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
Other airport acilities related	Heavy construction Source ID:	Percentage active area, p	5.2 %	Assume % works area for heavy construction
works	Q1: 16-ABT1-1x Q2: 16-ABT1-1x	Mitigation efficiency No. of working days per month, d	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q3: 16-ABT1-1x Q4: 16-ABT1-1x	No. of working days per month, d No. of working hours per day, h Emission Factor Emission Rate	30 days 24 hour 2.69 Mg/hectare/month of activity 5.35701E-06 g/m²/s (unmitigated) 4.44632E-07 g/m²/s (mitigated)	AP42, Section 13.2.3.3 =2.69*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p Emission Factor Emission Rate	5.2 % 0.85 Mg/hectare/year 1.39129E-07 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
Roadworks	Heavy construction Source ID:	Percentage active area, p	5.2 %	Assume % works area for heavy construction
corresponding to Other airport facilities related works	Q1: 16-ABT1-2x Q2: 16-ABT1-2x Q3: 16-ABT1-2x Q4: 16-ABT1-2x	Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor Emission Rate	91.7 % 30 days 24 hour 2.69 Mg/hectare/month of activity 6.42841E-05 g/m²/s (unmitigated) 5.33558E-06 g/m²/s (mitigated)	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report AP42, Section 13.2.3.3 Assume road width equals 12m, therefore multiply emission rate by 12m. =2.69*1000000/(10000*d*h*60*60)*p/100 * 12
	Wind Erosion Source ID: (as above)	Percentage active area, p Emission Factor Emission Rate	5.2 % 0.85 Mg/hectare/year 1.39129E-07 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100

Works Area Third Runway Land	Sources Heavy construction	Percentage active area, p	Parameter 2.0 %	Remarks
Formation	Source ID: For 24hrs activities:	r elcentage active area, p	2.0 /0	Assume % works area for heavy construction
	Q1: 17-1_03-1x, 17-1_04x, 17-1_07-1, 17-1_07-2, 17-1_08A-1, 17-1_08A-2, 17-1_08B-1, 17-1_08B-2, 17-1_09-1, 17-1_09-2, 17 2_03B, 17-2_04-1x, 17-2_05B-1x, 17-2_06-2x, 17-2_07B, 17- 2_08, 17-2_09-1, 17-2_09-2	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dus Sources Final Report
	Q2: 17-1_02-1x, 17-1_03-1x, 17-1_04x, 17-1_07-1, 17-1_07-2, 17 1_08A-1, 17-1_08A-2, 17-1_08B-1, 17-1_08B-2, 17-1_09-1, 17- 1_09-2, 17-2_03B, 17-2_05B-1x, 17-2_07A-1x, 17-2_07B, 17- 2_08, 17-2_09-1, 17-2_09-2, 17-3_01A-1x, 17-3_01A-3	, No. of working days per month, d	30 days	
	Q3: 17-1_02-1x, 17-1_03-1x, 17-1_04x, 17-1_05, 17-1_07-1, 17- 1_07-2, 17-1_08A-1, 17-1_08A-2, 17-1_08B-1, 17-1_08B-2, 17- 2_03B, 17-2_05B-1x, 17-2_07A-1x, 17-2_07B, 17-2_08, 17- 3_01A-1x, 17-3_01A-3	No. of working hours per day, h	24 hour	
	Q4: 17-1_02-1x, 17-1_03-1x, 17-1_04x, 17-1_05, 17-1_07-1, 17- 1_07-2, 17-1_08A-1, 17-1_08A-2, 17-2_03B, 17-2_05A, 17- 2_05B-1x, 17-2_07A-1x, 17-2_07B, 17-2_08	Emission Factor	2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
		Emission Rate	2.02716E-06 g/m²/s (unmitigated) 1.68254E-07 g/m²/s (mitigated)	=2.69*1000000/(10000*30*h*60*60)*p/100
	For night-time activities:	Percentage active area, p	2.0 %	
	Q1:	Mitigation efficiency	91.7 %	
	Q2: 17-2_04-1x, 17-2_06-2x	No. of working days per month, d	30 days	
	Q3: 17-1_09-1, 17-1_09-2, 17-2_04-1x, 17-2_06-2x, 17-2_09-1, 17-2_09-2	No. of working hours per day, h	12 (night) hour	
	Q4: 17-1_09-1, 17-1_09-2, 17-2_04-1x, 17-2_06-2x, 17-2_09-1, 17-2_09-2, 17-3_02A-2x, 17-3_02A-1	Emission Factor Emission Rate	2.69 Mg/hectare/month of activity 4.05432E-06 g/m²/s (unmitigated) 3.36509E-07 g/m²/s (mitigated)	AP42, Section 13.2.3.3 =2.69*1000000/(10000*30*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	2.0 %	
		Emission Factor Emission Rate	0.85 Mg/hectare/year 5.26482E-08 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
Third Runway Wind Erosion (only)	Wind Erosion Source ID: Q1: Q2: Q3:	Percentage active area, p Emission Factor Emission Rate	20.0 % 0.85 Mg/hectare/year 5.39066E-07 g/m²/s	Based on scheme design of definition for sand fill materials consisting of coarse materials with size not exceeding 37.5 AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
	Q4: 1_08B-1, 1_08B-2, 3_01A-1, 3_01A-2, 3_01A-3			
Third Runway Other Construction	Heavy construction Source ID:	Percentage active area, p	0.1 %	Assume % works area for heavy construction
Works/Facilities on newly formed land	Q1: 17-4_04, 17-4_05-1	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Du Sources Final Report
	Q2: 17-4_04, 17-4_05-1 Q3: 17-4_04, 17-4_05-1	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4: 17-4_04, 17-4_05-1	Emission Factor Emission Rate	2.69 Mg/hectare/month of activity 7.01099E-08 g/m²/s (unmitigated) 5.81912E-09 g/m²/s (mitigated)	AP42, Section 13.2.3.3 =2.69*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p Emission Factor Emission Rate	0.1 % 0.85 Mg/hectare/year 1.82085E-09 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
Concurrent project)	Heavy construction Source ID:	Percentage active area, p	9.2 %	Assume % works area for heavy construction
NCD works	Q1: 17-NCD1-2x, 17-NCD2-2x, 17-TRD2, 17-TRD3x, 17-TCPN- 1x, 17-SCCP1, 17-EGC2x, 17-EGC3x, 17-EGC5x	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Du Sources Final Report
	Q2: 17-NCD1-2x, 17-NCD2-2x, 17-TRD2, 17-TRD3x, 17-TCPN- 1x, 17-SCCP1, 17-EGC2x, 17-EGC3x, 17-EGC5x	No. of working days per month, d	30 days	
	Q3: 17-NCD1-2x, 17-NCD2-2x, 17-TRD2, 17-TRD3x, 17-TCPN- 1x, 17-SCCP1, 17-EGC2x, 17-EGC3x, 17-EGC5x	No. of working hours per day, h	24 hour	
	Q4: 17-NCD1-2x, 17-NCD2-2x, 17-TRD2, 17-TRD3x, 17-TCPN- 1x, 17-SCCP1, 17-EGC2x, 17-EGC3x, 17-EGC5x	Emission Factor	2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
		Emission Rate	9.58566E-06 g/m²/s (unmitigated) 7.9561E-07 g/m²/s (mitigated)	=2.69*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	9.2 %	1
		Emission Factor	0.85 Mg/hectare/year	AP42, Table 11.9-4

 Emission Factor
 0.85 Mg/hectare/year
 AP42, Table 11.9-4

 Emission Rate
 2.48953E-07 g/m²/s
 =0.85\*1000000/(10000\*365\*24\*60\*60)\*p/100

(Concurrent project)	Heavy construction Source ID:	Percentage active area, p	28.8 %	Assume % works area for heavy construction
ITT works (area sources)	Q1: 17-AES6	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: Q3: Q4:	No. of working days per month, d No. of working hours per day, h Emission Factor Emission Rate	30 days 24 hour 2.69 Mg/hectare/month of activity 2.98707E-05 g/m²/s (unmitigated) 2.47927E-06 g/m²/s (mitigated)	AP42, Section 13.2.3.3 =2.69*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p Emission Factor Emission Rate	28.8 % 0.85 Mg/hectare/year 7.75783E-07 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100

Appendix 5.2.9 - D	etails of Dust Emission Sources for Tier 2 Hourly T	SP Assessment at Year 2017		
(Concurrent project)	Heavy construction Source ID:	Percentage active area, p	28.78 %	Assume % works area for heavy construction
ITT works (line sources)		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
Roadworks - at	Q1: 17-AES2x, 17-AES9x, 17-AES11x Q2:	No. of working days per month, d	30 days	Sources Final Report
grade	Q3:	No. of working hours per day, h	24 hour	
	Q4:	Emission Factor	2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Assume road width equals 12m, therefore multiply emission rate
		Emission Rate	0.000358448 g/m <sup>2</sup> /s (unmitigated)	by 12m. =2.69*1000000/(10000*d*h*60*60)*p/100 * 12
			2.97512E-05 g/m <sup>2</sup> /s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	28.78 %	
		Emission Factor	0.85 Mg/hectare/year	AP42, Table 11.9-4
		Emission Rate	7.75783E-07 g/m²/s	=0.85*1000000/(10000*365*24*60*60)*p/100
South Cargo	Heavy construction	Percentage active area, p	55.17 %	Assume % works area for heavy construction
Roadworks - at grade	Source ID:			Water suppression 12 times a day
•	Q1:	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 17-CA1x	No. of working days per month, d	30 days	
	Q3: 17-CA1x Q4: 17-CA1x	No. of working hours per day, h Emission Factor	24 hour 2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
		Emission Rate	0.000687127 g/m <sup>2</sup> /s (unmitigated)	Assume road width equals 12m, therefore multiply emission rate by 12m.
l				=2.69*1000000/(10000*d*h*60*60)*p/100 * 12
			5.70315E-05 g/m²/s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	55.17 %	
l		Emission Factor	0.85 Mg/hectare/year	AP42, Table 11.9-4
		Emission Rate	1.48714E-06 g/m²/s	=0.85*1000000/(10000*365*24*60*60)*p/100
South Cargo	Heavy construction Source ID:	Percentage active area, p	55.2 %	Assume % works area for heavy construction
Roadworks - viaduct				Water suppression 12 times a day
	Q1:	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 17-CA3x, 17-CA6x	No. of working days per month, d	30 days	
	Q3: 17-CA3x, 17-CA6x Q4: 17-CA3x, 17-CA6x	No. of working hours per day, h	24 hour	
	Q4. 17-0A5x, 17-0A6x	Emission Factor	2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Assume 30m spacing between road piers (base:5mx 5m),
		Emission Rate	7.15757E-05 g/m²/s (unmitigated)	therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile
				width + 50% extra for works) '=2.69*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
			5.94078E-06 g/m <sup>2</sup> /s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	55.2 %	
		Emission Factor Emission Rate	0.85 Mg/hectare/year 1.48714E-06 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
Roadworks Road 6 - viaduct (Concept F,	Heavy construction Source ID:	Percentage active area, p	37.4 %	Assume % works area for heavy construction
Option 3)		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: Q2: 17-RF2x, 17-RF4x, 17-RF9x, 17-RF10x, 17-RF11x, 17-			Sources Final Report
	RF17x, 17-RF16x, 17-RF19x, 17-RF21x, 17-RF25x, 17-RF26x, 17 RF29x, 17-RF30x, 17-RF33x, 17-RF35x, 17-RF36x, 17-RF37x	No. of working days per month, d	30 days	
	Q3: 17-RF2x, 17-RF4x, 17-RF9x, 17-RF10x, 17-RF11x, 17-			
	RF17x, 17-RF16x, 17-RF19x, 17-RF21x, 17-RF25x, 17-RF26x, 17 RF29x, 17-RF30x, 17-RF33x, 17-RF35x, 17-RF36x, 17-RF37x	No. of working hours per day, h	24 hour	
	Q4: 17-RF2x, 17-RF4x, 17-RF9x, 17-RF10x, 17-RF11x, 17- RF17x, 17-RF16x, 17-RF19x, 17-RF21x, 17-RF25x, 17-RF26x, 17			
	RF29x, 17-RF30x, 17-RF33x, 17-RF35x, 17-RF36x, 17-RF37x	Emission Factor	2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
				Assume 30m spacing between road piers (base:5mx 5m),
		Emission Rate	4.85447E-05 g/m <sup>2</sup> /s (unmitigated)	therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile width + 50% extra for works)
				'=2.69*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
			4.02921E-06 g/m <sup>2</sup> /s (mitigated)	
	Wind Erosion	Percentage active area, p	4.02921E-06 g/m²/s (mitigated) 37.4 %	
	Wind Erosion Source ID: (as above)	Percentage active area, p Emission Factor		AP42, Table 11.9-4

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	-	TSP Assessment at Year 2017		
New APM nterchange Station	Heavy construction Source ID:	Percentage active area, p	2.9 %	Assume % works area for heavy construction
AIS)		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: Q2:	No. of working days per month, d	30 days	Sources Final Report
	Q3: 17-AIS1x	No. of working hours per day, h	24 hour	
	Q4:	Emission Factor Emission Rate	2.69 Mg/hectare/month of activity 2.98683E-06 g/m <sup>2</sup> /s (unmitigated)	AP42, Section 13.2.3.3 =2.69*1000000/(10000*d*h*60*60)*p/100
			2.47907E-07 g/m²/s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	2.88 %	
	Q1:	Emission Factor	0.85 Mg/hectare/year	AP42, Table 11.9-4
		Emission Rate	7.75722E-08 g/m²/s	=0.85*1000000/(10000*365*24*60*60)*p/100
BHS and APM	Heavy construction Source ID:	Percentage active area, p	0.4 %	Assume % works area for heavy construction
unnel		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: Q2:	No. of working days per month, d	30 days	Sources Final Report
	Q3: 17-BAT1, 17-BAT2, 17-NAB4x Q4: 17-BAT1, 17-BAT2, 17-NAB4x	No. of working hours per day, h	24 hour	
	Q4: 17-DAT1, 17-DAT2, 17-INAD4X	Emission Factor Emission Rate	2.69 Mg/hectare/month of activity 4.34345E-07 g/m <sup>2</sup> /s (unmitigated)	AP42, Section 13.2.3.3 =2.69*1000000/(10000*d*h*60*60)*p/100
			3.60506E-08 g/m <sup>2</sup> /s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.42 %	
	Q1:	Emission Factor Emission Rate	0.85 Mg/hectare/year 1.12805E-08 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
2 Expansion Area	Heavy construction Source ID:	Percentage active area, p	0.1 %	Assume % works area for heavy construction
		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: Q2: Q2: 17 T2E 1x 17 T2E 2 17 PUS1 17 PUS2 17 SAP 17	No. of working days per month, d	30 days	Sources Final Report
	Q3: 17-T2E-1x, 17-T2E-3, 17-BHS1, 17-BHS2, 17-SAB, 17- NAB1x, 17-NAD1 Q4: 17-T2E-1x, 17-T2E-3, 17-AIS1x, 17-EVA5x, 17-EVA7x, 17-	No. of working hours per day, h	24 hour	
	EVA9, 17-BHS1, 17-BHS2, 17-SAB, 17-NAB1x, 17-NAD1	Emission Factor	2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
		Emission Rate	1.53784E-07 g/m²/s (unmitigated) 1.27641E-08 g/m²/s (mitigated)	=2.69*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.1 %	
		Emission Factor Emission Rate	0.85 Mg/hectare/year 3.99398E-09 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
			0.00000E 00 g/m/3	
2 Expansion -	Heavy construction Source ID:	Percentage active area, p	8.0 %	Assume % works area for heavy construction
Emergency /ehicular Access	Source ID:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
EVA)	Q1:			Sources Final Report
	02		30 days	
	Q2: Q3: 17-EVA5x, 17-EVA7x, 17-EVA9	No. of working days per month, d No. of working hours per day, h	24 hour	
		No. of working hours per day, h Emission Factor	2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
	Q3: 17-EVA5x, 17-EVA7x, 17-EVA9	No. of working hours per day, h		AP42, Section 13.2.3.3 =2.69*1000000/(10000*d*h*60*60)*p/100
	Q3: 17-EVA5x, 17-EVA7x, 17-EVA9 Q4: Wind Erosion	No. of working hours per day, h Emission Factor	2.69 Mg/hectare/month of activity 8.27899E-06 g/m <sup>2</sup> /s (unmitigated)	
	Q3: 17-EVA5x, 17-EVA7x, 17-EVA9 Q4:	No. of working hours per day, h Emission Factor Emission Rate Percentage active area, p Emission Factor	2.69 Mg/hectare/month of activity 8.27899E-06 g/m²/s (unmitigated) 6.87156E-07 g/m²/s (mitigated) 8.0 % 0.85 Mg/hectare/year	=2.69*1000000/(10000*d*h*60*60)*p/100 AP42, Table 11.9-4
	Q3: 17-EVA5x, 17-EVA7x, 17-EVA9 Q4: Wind Erosion	No. of working hours per day, h Emission Factor Emission Rate Percentage active area, p	2.69 Mg/hectare/month of activity 8.27899E-06 g/m²/s (unmitigated) 6.87156E-07 g/m²/s (mitigated) 8.0 %	=2.69*1000000/(10000*d*h*60*60)*p/100
	Q3: 17-EVA5x, 17-EVA7x, 17-EVA9 Q4: Wind Erosion Source ID: (as above) Heavy construction	No. of working hours per day, h Emission Factor Emission Rate Percentage active area, p Emission Factor	2.69 Mg/hectare/month of activity 8.27899E-06 g/m²/s (unmitigated) 6.87156E-07 g/m²/s (mitigated) 8.0 % 0.85 Mg/hectare/year	=2.69*1000000/(10000*d*h*60*60)*p/100 AP42, Table 11.9-4
acilities related	Q3: 17-EVA5x, 17-EVA7x, 17-EVA9 Q4: Wind Erosion Source ID: (as above)	No. of working hours per day, h Emission Factor Emission Rate Percentage active area, p Emission Factor Emission Rate Percentage active area, p	2.69 Mg/hectare/month of activity 8.27899E-06 g/m²/s (unmitigated) 6.87156E-07 g/m²/s (mitigated) 8.0 % 0.85 Mg/hectare/year 2.15017E-07 g/m²/s 1.4 %	=2.69*1000000/(10000*d*h*60*60)*p/100 AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day
acilities related	Q3: 17-EVA5x, 17-EVA7x, 17-EVA9 Q4: Wind Erosion Source ID: (as above) Heavy construction	No. of working hours per day, h Emission Factor Emission Rate Percentage active area, p Emission Factor Emission Rate	2.69 Mg/hectare/month of activity 8.27899E-06 g/m²/s (unmitigated) 6.87156E-07 g/m²/s (mitigated) 8.0 % 0.85 Mg/hectare/year 2.15017E-07 g/m²/s	=2.69 <sup>*</sup> 1000000/(10000*d*h*60*60)*p/100 AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction
Other airport acilities related works	Q3: 17-EVA5x, 17-EVA7x, 17-EVA9 Q4: Wind Erosion Source ID: (as above) Heavy construction Source ID: Q1: 17-ABT1-1x Q2: 17-ABT1-1x	No. of working hours per day, h Emission Factor Emission Rate Percentage active area, p Emission Factor Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d	2.69 Mg/hectare/month of activity 8.27899E-06 g/m²/s (unmitigated) 6.87156E-07 g/m²/s (mitigated) 8.0 % 0.85 Mg/hectare/year 2.15017E-07 g/m²/s 1.4 % 91.7 % 30 days	=2.69*1000000/(10000*d*h*60*60)*p/100 AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
acilities related	Q3: 17-EVA5x, 17-EVA7x, 17-EVA9 Q4: Wind Erosion Source ID: (as above) Heavy construction Source ID: Q1: 17-ABT1-1x	No. of working hours per day, h Emission Factor Emission Rate Percentage active area, p Emission Factor Emission Rate Percentage active area, p Mitigation efficiency	2.69 Mg/hectare/month of activity 8.27899E-06 g/m²/s (unmitigated) 6.87156E-07 g/m²/s (mitigated) 8.0 % 0.85 Mg/hectare/year 2.15017E-07 g/m²/s 1.4 % 91.7 %	=2.69*1000000/(10000*d*h*60*60)*p/100 AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
acilities related	Q3: 17-EVA5x, 17-EVA7x, 17-EVA9 Q4: Wind Erosion Source ID: (as above) Heavy construction Source ID: Q1: 17-ABT1-1x Q2: 17-ABT1-1x Q3: 17-ABT1-1x	No. of working hours per day, h Emission Factor Emission Rate Percentage active area, p Emission Factor Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h	2.69 Mg/hectare/month of activity 8.27899E-06 g/m²/s (unmitigated) 6.87156E-07 g/m²/s (mitigated) 8.0 % 0.85 Mg/hectare/year 2.15017E-07 g/m²/s 1.4 % 91.7 % 30 days 24 hour	=2.69*1000000/(10000*d*h*60*60)*p/100 AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
acilities related	Q3: 17-EVA5x, 17-EVA7x, 17-EVA9 Q4: Wind Erosion Source ID: (as above) Heavy construction Source ID: Q1: 17-ABT1-1x Q2: 17-ABT1-1x Q3: 17-ABT1-1x Q4: 17-ABT1-1x Q4: 17-ABT1-1x	No. of working hours per day, h Emission Factor Emission Rate Percentage active area, p Emission Factor Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor Emission Rate	2.69 Mg/hectare/month of activity 8.27899E-06 g/m²/s (unmitigated) 6.87156E-07 g/m²/s (mitigated) 8.0 % 0.85 Mg/hectare/year 2.15017E-07 g/m²/s 1.4 % 91.7 % 30 days 24 hour 2.69 Mg/hectare/month of activity 1.45571E-06 g/m²/s (unmitigated) 1.20824E-07 g/m²/s (mitigated)	<ul> <li>=2.69*1000000/(10000*d*h*60*60)*p/100</li> <li>AP42, Table 11.9-4</li> <li>=0.85*1000000/(10000*365*24*60*60)*p/100</li> <li>Assume % works area for heavy construction</li> <li>Water suppression 12 times a day</li> <li>Equation (3-2) in the USEPA's Control of Open Fugitive Dust</li> <li>Sources Final Report</li> <li>AP42, Section 13.2.3.3</li> </ul>
acilities related	Q3: 17-EVA5x, 17-EVA7x, 17-EVA9 Q4: Wind Erosion Source ID: (as above) Heavy construction Source ID: Q1: 17-ABT1-1x Q2: 17-ABT1-1x Q3: 17-ABT1-1x Q4: 17-ABT1-1x	No. of working hours per day, h Emission Factor Emission Rate Percentage active area, p Emission Factor Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor Emission Rate Percentage active area, p	2.69 Mg/hectare/month of activity 8.27899E-06 g/m²/s (unmitigated) 6.87156E-07 g/m²/s (mitigated) 8.0 % 0.85 Mg/hectare/year 2.15017E-07 g/m²/s 1.4 % 91.7 % 30 days 24 hour 2.69 Mg/hectare/month of activity 1.45571E-06 g/m²/s (unmitigated) 1.20824E-07 g/m²/s (mitigated) 1.4 %	=2.69*1000000/(10000*d*h*60*60)*p/100 AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report AP42, Section 13.2.3.3 =2.69*1000000/(10000*d*h*60*60)*p/100
acilities related	Q3: 17-EVA5x, 17-EVA7x, 17-EVA9 Q4: Wind Erosion Source ID: (as above) Heavy construction Source ID: Q1: 17-ABT1-1x Q2: 17-ABT1-1x Q3: 17-ABT1-1x Q4: 17-ABT1-1x Q4: 17-ABT1-1x	No. of working hours per day, h Emission Factor Emission Rate Percentage active area, p Emission Factor Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor Emission Rate	2.69 Mg/hectare/month of activity 8.27899E-06 g/m²/s (unmitigated) 6.87156E-07 g/m²/s (mitigated) 8.0 % 0.85 Mg/hectare/year 2.15017E-07 g/m²/s 1.4 % 91.7 % 30 days 24 hour 2.69 Mg/hectare/month of activity 1.45571E-06 g/m²/s (unmitigated) 1.20824E-07 g/m²/s (mitigated)	<ul> <li>=2.69*1000000/(10000*d*h*60*60)*p/100</li> <li>AP42, Table 11.9-4</li> <li>=0.85*1000000/(10000*365*24*60*60)*p/100</li> <li>Assume % works area for heavy construction</li> <li>Water suppression 12 times a day</li> <li>Equation (3-2) in the USEPA's Control of Open Fugitive Dust</li> <li>Sources Final Report</li> <li>AP42, Section 13.2.3.3</li> </ul>
acilities related vorks	Q3: 17-EVA5x, 17-EVA7x, 17-EVA9 Q4: Wind Erosion Source ID: (as above) Heavy construction Source ID: Q1: 17-ABT1-1x Q2: 17-ABT1-1x Q3: 17-ABT1-1x Q4: 17-ABT1-1x Q4: 17-ABT1-1x Heavy construction	No. of working hours per day, h Emission Factor Emission Rate Percentage active area, p Emission Factor Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor Emission Rate Percentage active area, p Emission Factor	2.69 Mg/hectare/month of activity 8.27899E-06 g/m²/s (unmitigated) 6.87156E-07 g/m²/s (mitigated) 8.0 % 0.85 Mg/hectare/year 2.15017E-07 g/m²/s 1.4 % 91.7 % 30 days 24 hour 2.69 Mg/hectare/month of activity 1.45571E-06 g/m²/s (unmitigated) 1.20824E-07 g/m²/s (mitigated) 1.4 % 0.85 Mg/hectare/year	=2.69*1000000/(10000*d*h*60*60)*p/100         AP42, Table 11.9-4         =0.85*1000000/(10000*365*24*60*60)*p/100         Assume % works area for heavy construction         Water suppression 12 times a day         Equation (3-2) in the USEPA's Control of Open Fugitive Dust         Sources Final Report         AP42, Section 13.2.3.3         =2.69*1000000/(10000*d*h*60*60)*p/100         AP42, Table 11.9-4         =0.85*1000000/(10000*365*24*60*60)*p/100
acilities related vorks Roadworks orresponding to	Q3: 17-EVA5x, 17-EVA7x, 17-EVA9 Q4: Wind Erosion Source ID: (as above) Heavy construction Source ID: Q1: 17-ABT1-1x Q2: 17-ABT1-1x Q3: 17-ABT1-1x Q4: 17-ABT1-1x Q4: 17-ABT1-1x Wind Erosion Source ID: (as above)	No. of working hours per day, h Emission Factor Emission Rate Percentage active area, p Emission Factor Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor Emission Rate Percentage active area, p Emission Factor Emission Factor Emission Rate	2.69 Mg/hectare/month of activity 8.27899E-06 g/m²/s (unmitigated) 6.87156E-07 g/m²/s (mitigated) 8.0 % 0.85 Mg/hectare/year 2.15017E-07 g/m²/s 1.4 % 91.7 % 30 days 24 hour 2.69 Mg/hectare/month of activity 1.45571E-06 g/m²/s (unmitigated) 1.20824E-07 g/m²/s (mitigated) 1.4 % 0.85 Mg/hectare/year 3.78068E-08 g/m²/s	=2.69*1000000/(10000*d*h*60*60)*p/100 AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report AP42, Section 13.2.3.3 =2.69*1000000/(10000*d*h*60*60)*p/100 AP42, Table 11.9-4
Roadworks corresponding to Dther airport acilities related	Q3: 17-EVA5x, 17-EVA7x, 17-EVA9 Q4: Wind Erosion Source ID: (as above) Heavy construction Source ID: Q1: 17-ABT1-1x Q2: 17-ABT1-1x Q3: 17-ABT1-1x Q4: 17-ABT1-1x	No. of working hours per day, h Emission Factor Emission Rate Percentage active area, p Emission Factor Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor Emission Rate Percentage active area, p Emission Factor Emission Factor Emission Rate	2.69 Mg/hectare/month of activity 8.27899E-06 g/m²/s (unmitigated) 6.87156E-07 g/m²/s (mitigated) 8.0 % 0.85 Mg/hectare/year 2.15017E-07 g/m²/s 1.4 % 91.7 % 30 days 24 hour 2.69 Mg/hectare/month of activity 1.45571E-06 g/m²/s (unmitigated) 1.20824E-07 g/m²/s (mitigated) 1.4 % 0.85 Mg/hectare/year 3.78068E-08 g/m²/s	=2.69*100000/(10000*d*h*60*60)*p/100         AP42, Table 11.9-4         =0.85*1000000/(10000*365*24*60*60)*p/100         Assume % works area for heavy construction         Water suppression 12 times a day         Equation (3-2) in the USEPA's Control of Open Fugitive Dust         Sources Final Report         AP42, Section 13.2.3.3         =2.69*1000000/(10000*d*h*60*60)*p/100         AP42, Table 11.9-4         =0.85*1000000/(10000*365*24*60*60)*p/100         AP42, Table 11.9-4         =0.85*1000000/(10000*365*24*60*60)*p/100         Assume % works area for heavy construction         Water suppression 12 times a day         Equation (3-2) in the USEPA's Control of Open Fugitive Dust
Roadworks corresponding to Dther airport acilities related	Q3: 17-EVA5x, 17-EVA7x, 17-EVA9 Q4: Wind Erosion Source ID: (as above) Heavy construction Source ID: Q1: 17-ABT1-1x Q2: 17-ABT1-1x Q3: 17-ABT1-1x Q4: 17-ABT1-1x Q4: 17-ABT1-1x Heavy construction	No. of working hours per day, h Emission Factor Emission Rate Percentage active area, p Emission Factor Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor Emission Rate Percentage active area, p Emission Factor Emission Rate Percentage active area, p Emission Rate	2.69 Mg/hectare/month of activity 8.27899E-06 g/m²/s (unmitigated) 6.87156E-07 g/m²/s (mitigated) 8.0 % 0.85 Mg/hectare/year 2.15017E-07 g/m²/s 1.4 % 91.7 % 30 days 24 hour 2.69 Mg/hectare/month of activity 1.45571E-06 g/m²/s (unmitigated) 1.20824E-07 g/m²/s (mitigated) 1.4 % 0.85 Mg/hectare/year 3.78068E-08 g/m²/s	=2.69*1000000/(10000*d*h*60*60)*p/100         AP42, Table 11.9-4         =0.85*1000000/(10000*365*24*60*60)*p/100         Assume % works area for heavy construction         Water suppression 12 times a day         Equation (3-2) in the USEPA's Control of Open Fugitive Dust         Sources Final Report         AP42, Section 13.2.3.3         =2.69*1000000/(10000*d*h*60*60)*p/100         AP42, Table 11.9-4         =0.85*1000000/(10000*365*24*60*60)*p/100         ASsume % works area for heavy construction         Water suppression 12 times a day         AP42, Table 11.9-4         =0.85*1000000/(10000*365*24*60*60)*p/100
acilities related	Q3: 17-EVA5x, 17-EVA7x, 17-EVA9 Q4: Wind Erosion Source ID: (as above) Heavy construction Source ID: Q1: 17-ABT1-1x Q2: 17-ABT1-1x Q3: 17-ABT1-1x Q4: 17-ABT1-1x Q4: 17-ABT1-1x Wind Erosion Source ID: (as above) Heavy construction Source ID: (as above) (01: 17-ABT1-2x Q2: 17-ABT1-2x Q3: 17-ABT1-2x Q3: 17-ABT1-2x Q3: 17-ABT1-2x	No. of working hours per day, h Emission Factor Emission Rate Percentage active area, p Emission Factor Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor Emission Rate Percentage active area, p Emission Factor Emission Rate Percentage active area, p Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working days per month, d No. of working hours per day, h	2.69 Mg/hectare/month of activity 8.27899E-06 g/m²/s (unmitigated) 6.87156E-07 g/m²/s (mitigated) 8.0 % 0.85 Mg/hectare/year 2.15017E-07 g/m²/s 1.4 % 91.7 % 30 days 24 hour 2.69 Mg/hectare/month of activity 1.45571E-06 g/m²/s (unmitigated) 1.20824E-07 g/m²/s (mitigated) 1.20824E-07 g/m²/s (mitigated) 1.4 % 0.85 Mg/hectare/year 3.78068E-08 g/m²/s 1.4 % 91.7 % 30 days 24 hour	=2.69*100000/(10000*d*h*60*60)*p/100         AP42, Table 11.9-4         =0.85*1000000/(10000*365*24*60*60)*p/100         Assume % works area for heavy construction         Water suppression 12 times a day         Equation (3-2) in the USEPA's Control of Open Fugitive Dust         Sources Final Report         AP42, Section 13.2.3.3         =2.69*1000000/(10000*d*h*60*60)*p/100         AP42, Table 11.9-4         =0.85*1000000/(10000*365*24*60*60)*p/100         ASsume % works area for heavy construction         Water suppression 12 times a day         =0.85*1000000/(10000*365*24*60*60)*p/100         Assume % works area for heavy construction         Water suppression 12 times a day         Equation (3-2) in the USEPA's Control of Open Fugitive Dust         Sources Final Report
Roadworks orresponding to Other airport acilities related	Q3: 17-EVA5x, 17-EVA7x, 17-EVA9 Q4: Wind Erosion Source ID: (as above) Heavy construction Source ID: Q1: 17-ABT1-1x Q2: 17-ABT1-1x Q3: 17-ABT1-1x Q4: 17-ABT1-1x Q4: 17-ABT1-1x Wind Erosion Source ID: (as above) Heavy construction Source ID: (as above) Q1: 17-ABT1-2x Q2: 17-ABT1-2x Q2: 17-ABT1-2x	No. of working hours per day, h Emission Factor Emission Rate Percentage active area, p Emission Factor Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor Emission Rate Percentage active area, p Emission Factor Emission Rate Percentage active area, p Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d	2.69 Mg/hectare/month of activity 8.27899E-06 g/m²/s (unmitigated) 6.87156E-07 g/m²/s (mitigated) 8.0 % 0.85 Mg/hectare/year 2.15017E-07 g/m²/s 1.4 % 91.7 % 30 days 24 hour 2.69 Mg/hectare/month of activity 1.45571E-06 g/m²/s (unmitigated) 1.20824E-07 g/m²/s (mitigated) 1.4 % 0.85 Mg/hectare/year 3.78068E-08 g/m²/s 1.4 % 91.7 % 30 days	<ul> <li>=2.69<sup>*</sup>1000000/(10000*d*h*60*60)*p/100</li> <li>AP42, Table 11.9-4</li> <li>=0.85*1000000/(10000*365*24*60*60)*p/100</li> <li>Assume % works area for heavy construction</li> <li>Water suppression 12 times a day</li> <li>Equation (3-2) in the USEPA's Control of Open Fugitive Dust</li> <li>Sources Final Report</li> <li>AP42, Section 13.2.3.3</li> <li>=2.69*1000000/(10000*d*h*60*60)*p/100</li> <li>AP42, Table 11.9-4</li> <li>=0.85*1000000/(10000*365*24*60*60)*p/100</li> <li>Assume % works area for heavy construction</li> <li>Water suppression 12 times a day</li> <li>Equation (3-2) in the USEPA's Control of Open Fugitive Dust</li> <li>Sources Final Report</li> <li>AP42, Table 11.9-4</li> <li>=0.85*1000000/(10000*365*24*60*60)*p/100</li> <li>Assume % works area for heavy construction</li> <li>Water suppression 12 times a day</li> <li>Equation (3-2) in the USEPA's Control of Open Fugitive Dust</li> <li>Sources Final Report</li> <li>AP42, Section 13.2.3.3</li> </ul>
Roadworks orresponding to Other airport acilities related	Q3: 17-EVA5x, 17-EVA7x, 17-EVA9 Q4: Wind Erosion Source ID: (as above) Heavy construction Source ID: Q1: 17-ABT1-1x Q2: 17-ABT1-1x Q3: 17-ABT1-1x Q4: 17-ABT1-1x Q4: 17-ABT1-1x Q4: 17-ABT1-1x Uind Erosion Source ID: (as above) Heavy construction Source ID: Q1: 17-ABT1-2x Q2: 17-ABT1-2x Q3: 17-ABT1-2x Q4: 17-ABT1-2x Q4: 17-ABT1-2x Q4: 17-ABT1-2x	No. of working hours per day, h Emission Factor Emission Rate Percentage active area, p Emission Factor Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor Emission Rate Percentage active area, p Emission Rate Percentage active area, p Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor	2.69 Mg/hectare/month of activity 8.27899E-06 g/m²/s (unmitigated) 6.87156E-07 g/m²/s (mitigated) 8.0 % 0.85 Mg/hectare/year 2.15017E-07 g/m²/s 1.4 % 91.7 % 30 days 24 hour 2.69 Mg/hectare/month of activity 1.45571E-06 g/m²/s (unmitigated) 1.20824E-07 g/m²/s (mitigated) 1.20824E-07 g/m²/s (mitigated) 1.4 % 0.85 Mg/hectare/year 3.78068E-08 g/m²/s 1.4 % 91.7 % 30 days 24 hour 2.69 Mg/hectare/month of activity 1.74685E-05 g/m²/s (unmitigated)	<ul> <li>=2.69<sup>*</sup>1000000/(10000*d*h*60*60)*p/100</li> <li>AP42, Table 11.9-4</li> <li>=0.85*1000000/(10000*365*24*60*60)*p/100</li> <li>Assume % works area for heavy construction</li> <li>Water suppression 12 times a day</li> <li>Equation (3-2) in the USEPA's Control of Open Fugitive Dust</li> <li>Sources Final Report</li> <li>AP42, Section 13.2.3.3</li> <li>=2.69*1000000/(10000*d*h*60*60)*p/100</li> <li>AP42, Table 11.9-4</li> <li>=0.85*1000000/(10000*365*24*60*60)*p/100</li> <li>Assume % works area for heavy construction</li> <li>Water suppression 12 times a day</li> <li>Equation (3-2) in the USEPA's Control of Open Fugitive Dust</li> <li>Sources Final Report</li> <li>AP42, Table 11.9-4</li> <li>=0.85*1000000/(10000*365*24*60*60)*p/100</li> <li>Assume % works area for heavy construction</li> <li>Water suppression 12 times a day</li> <li>Equation (3-2) in the USEPA's Control of Open Fugitive Dust</li> <li>Sources Final Report</li> <li>AP42, Section 13.2.3.3</li> </ul>
Roadworks corresponding to Dther airport acilities related	Q3: 17-EVA5x, 17-EVA7x, 17-EVA9 Q4: Wind Erosion Source ID: (as above) Heavy construction Source ID: Q1: 17-ABT1-1x Q2: 17-ABT1-1x Q3: 17-ABT1-1x Q4: 17-ABT1-1x Q4: 17-ABT1-1x Wind Erosion Source ID: (as above) Heavy construction Source ID: (as above) Q1: 17-ABT1-2x Q2: 17-ABT1-2x Q3: 17-ABT1-2x Q4: 17-ABT1-2x Q4: 17-ABT1-2x	No. of working hours per day, h Emission Factor Emission Rate Percentage active area, p Emission Factor Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor Emission Rate Percentage active area, p Emission Rate Percentage active area, p Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor Emission Factor Emission Rate	2.69 Mg/hectare/month of activity 8.27899E-06 g/m²/s (unmitigated) 6.87156E-07 g/m²/s (mitigated) 8.0 % 0.85 Mg/hectare/year 2.15017E-07 g/m²/s 1.4 % 91.7 % 30 days 24 hour 2.69 Mg/hectare/month of activity 1.45571E-06 g/m²/s (unmitigated) 1.20824E-07 g/m²/s (mitigated) 1.20824E-07 g/m²/s (mitigated) 1.4 % 0.85 Mg/hectare/year 3.78068E-08 g/m²/s 1.4 % 91.7 % 30 days 24 hour 2.69 Mg/hectare/month of activity 1.74685E-05 g/m²/s (unmitigated) 1.44989E-06 g/m²/s (mitigated)	=2.69*100000/(10000*d*h*60*60)*p/100         AP42, Table 11.9-4         =0.85*1000000/(10000*365*24*60*60)*p/100         Assume % works area for heavy construction         Water suppression 12 times a day         Equation (3-2) in the USEPA's Control of Open Fugitive Dust         Sources Final Report         AP42, Section 13.2.3.3         =2.69*1000000/(10000*d*h*60*60)*p/100         AP42, Table 11.9-4         =0.85*1000000/(10000*365*24*60*60)*p/100         ASsume % works area for heavy construction         Water suppression 12 times a day         =0.85*1000000/(10000*365*24*60*60)*p/100         Assume % works area for heavy construction         Water suppression 12 times a day         Equation (3-2) in the USEPA's Control of Open Fugitive Dust         Sources Final Report

Works Area	Sources		Parameter	Remarks
		Percentage active area, p	15.1 %	Assume % works area for heavy construction
	Q1: 18-1_02-1x, 18-1_03-1x, 18-1_04x, 18-1_05, 18-1_06-1x, 18- 1_08B-2, 18-2_02B-1x, 18-2_02B-2, 18-2_05A, 18-2_05B-1x, 18- 2_07A-1x	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 18-1_02-1x, 18-1_05, 18-1_06-1x, 18-2_02B-1x, 18-2_02B-2, 18-2_05A, 18-2_08, 18-3_02B	No. of working days per month, d	30 days	
	Q3: 18-1_06-1x, 18-2_01, 18-2_02B-1x, 18-2_02B-2, 18-2_03B, 18-2_05A, 18-2_05B-1x	No. of working hours per day, h	24 hour	
	Q4: 18-2_01, 18-2_02A, 18-2_02B-1x, 18-2_02B-2, 18-2_03B, 18-2_05B-1x	Emission Factor Emission Rate	2.69 Mg/hectare/month of activity 1.57149E-05 g/m <sup>2</sup> /s (unmitigated) 1.30434E-06 g/m <sup>2</sup> /s (mitigated)	AP42, Section 13.2.3.3 =2.69*1000000/(10000*30*h*60*60)*p/100
	For night-time activities: Q1: 18-1_09-1, 18-1_09-2, 18-2_04-1x, 18-2_06-2x, 18-2_09-1, 18-2_09-2, 18-3_02A-2x, 18-3_02A-1	Percentage active area, p Mitigation efficiency	15.1 <sup>%</sup> 91.7 %	
	Q2: 18-1_09-1, 18-1_09-2, 18-2_04-1x, 18-2_06-2x, 18-2_09-1,	No. of working days per month, d	30 days	
	Q3: 18-2_04-1x, 18-2_06-2x, 18-2_09-1, 18-2_09-2, 18-3_01A-	No. of working hours per day, h	12 (night) hour	
	Q4: 18-1_09-1, 18-1_09-2, 18-2_09-1, 18-2_09-2, 18-3_02A-2x, 18-3_02A-1	Emission Factor Emission Rate	2.69 Mg/hectare/month of activity 3.14298E-05 g/m <sup>2</sup> /s (unmitigated) 2.60867E-06 g/m <sup>2</sup> /s (mitigated)	AP42, Section 13.2.3.3 =2.69*1000000/(10000*30*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p Emission Factor Emission Rate	15.1 % 0.85 Mg/hectare/year 4.08137E-07 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
hird Runway /ind Erosion (only)	Q: 1_03-1, 1_03-2, 1_01, 1_04, 2_03B, 2_05B-1, 2_05B-2, 2_07A-1, 2_07A-2, 2_07B Q3: 1_09-1, 1_09-2, 2_08, 3_02B Q4: 2_04-1, 2_04-2, 2_05A, 2_06-1, 2_06-2, 2_06-3, 2_08,	Percentage active area, p Emission Factor Emission Rate	20.0 % 0.85 Mg/hectare/year 5.39066E-07 g/m²/s	Based on scheme design of definition for sand fill materials consisting of coarse materials with size not exceeding 37.5mr AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
hird Runway Other onstruction	3_02B Heavy construction Source ID:	Percentage active area, p	4.1 %	Assume % works area for heavy construction
/orks/Facilities on ewly formed land	Q1: 18-1_07-1, 18-1_08A-1, 18-1_08B-1, 18-4_04, 18-4_05-1	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q3: 18-1_02-1x, 18-1_03-1x, 18-1_04x, 18-1_05, 18-1_07-1, 18-	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4: 18-1_02-1x, 18-1_03-1x, 18-1_04x, 18-1_05, 18-1_06-1x, 18- 1_07-1, 18-1_07-2, 18-1_08A-1, 18-1_08A-2, 18-1_08B-1, 18- 1_08B-2, 18-2_07A-1x, 18-2_07B, 18-3_01A-1x, 18-3_01A-3, 18-	Emission Factor	2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
	4_04, 18-4_05-1	Emission Rate	4.24387E-06 g/m²/s (unmitigated) 3.52241E-07 g/m²/s (mitigated)	=2.69*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p Emission Factor Emission Rate	4.1 % 0.85 Mg/hectare/year 1.10219E-07 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
hird Runway Other	Heavy construction Source ID:	Percentage active area, p	4.1 %	Assume % works area for heavy construction
Vorks/Facilities on ewly formed land PART 1)	Q1: 18-1_07-1, 18-1_08A-1, 18-1_08B-1	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 18-1_07-1, 18-1_07-2, 18-1_08A-1, 18-1_08A-2, 18-1_08B- 1, 18-1_08B-2 Q3: 18-1_02-1x, 18-1_03-1x, 18-1_04x, 18-1_05, 18-1_07-1, 18-	No. of working days per month, d	30 days	
	1_07-2, 18-1_08A-1, 18-1_08A-2, 18-1_08B-1, 18-1_08B-2 Q4: 18-1_02-1x, 18-1_03-1x, 18-1_04x, 18-1_05, 18-1_06-1x, 18-	No. of working hours per day, h	24 hour	
	1_07-1, 18-1_07-2, 18-1_08A-1, 18-1_08A-2, 18-1_08B-1, 18- 1_08B-2	Emission Factor Emission Rate	2.69 Mg/hectare/month of activity 4.24387E-06 g/m <sup>2</sup> /s (unmitigated) 3.52241E-07 g/m <sup>2</sup> /s (mitigated)	AP42, Section 13.2.3.3 =2.69*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p Emission Factor Emission Rate	4.1 % 0.85 Mg/hectare/year 1.10219E-07 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
Concurrent project) CD works	Heavy construction Source ID:	Percentage active area, p	44.6 %	Assume % works area for heavy construction Water suppression 12 times a day
	Q1: 18-NCD2-2x, 18-TRD3x, 18-SCCP1, 18-EGC2x, 18-EGC3x	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q3: 18-NCD2-2x, 18-TRD3x, 18-SCCP1, 18-EGC2x, 18-EGC3x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4: 18-NCD2-2x, 18-TRD3x, 18-SCCP1, 18-EGC2x, 18-EGC3x	Emission Factor Emission Rate	2.69 Mg/hectare/month of activity 4.63226E-05 g/m <sup>2</sup> /s (unmitigated) 3.84478E-06 g/m <sup>2</sup> /s (mitigated)	AP42, Section 13.2.3.3 =2.69*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p Emission Factor Emission Rate	44.6 % 0.85 Mg/hectare/year 1.20306E-06 g/m²/s	AP42, Table 11.9-4 =0.85*100000/(10000*365*24*60*60)*p/100

Midfield	Heavy construction	Percentage active area, p	0.9 %	
development (MD)	Source ID:	. sroomayo aolivo arca, p	0.0 /0	Assume % works area for heavy construction Water suppression 12 times a day
	Q1: 18-MD	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 18-MD Q3: 18-MD	No. of working days per month, d	30 days	
	Q3: 18-MD Q4: 18-MD	No. of working hours per day, h Emission Factor	24 hour 2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
		Emission Rate	8.83824E-07 g/m²/s (unmitigated) 7.33574E-08 g/m²/s (mitigated)	=2.69*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion			
	Source ID: (as above)	Percentage active area, p Emission Factor	0.9 % 0.85 Mg/hectare/year	AP42, Table 11.9-4
		Emission Rate	2.29541E-08 g/m²/s	=0.85*1000000/(10000*365*24*60*60)*p/100
0				
South Cargo Roadworks - at	Heavy construction Source ID:	Percentage active area, p	50.92 %	Assume % works area for heavy construction
grade		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 18-CA1x Q2: 18-CA1x	No. of working days per month, d	30 days	Sources Final Report
	Q3: 18-CA1x Q4: 18-CA1x	No. of working hours per day, h Emission Factor	24 hour 2.69 Mg/hectare/month of activity	AP42. Section 13.2.3.3
				Assume road width equals 12m, therefore multiply emission ra
		Emission Rate	0.000634197 g/m <sup>2</sup> /s (unmitigated)	by 12m. =2.69*1000000/(10000*d*h*60*60)*p/100 * 12
			5.26384E-05 g/m²/s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	50.92 %	
		Emission Factor	0.85 Mg/hectare/year	AP42, Table 11.9-4
		Emission Rate	1.37258E-06 g/m²/s	=0.85*1000000/(10000*365*24*60*60)*p/100
South Cargo	Heavy construction	Percentage active area, p	50.9 %	Assume % works area for heavy construction
Roadworks - viaduct	Source ID:			Water suppression 12 times a day
	Q1: 18-CA3x, 18-CA6x	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 18-CA3x, 18-CA6x Q3: 18-CA3x, 18-CA6x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4: 18-CA3x, 18-CA6x	Emission Factor	2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
				Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the
		Emission Rate	6.60622E-05 g/m <sup>2</sup> /s (unmitigated)	road is approximated to a line, assume width of 7.5m (i.e. 5m p width + 50% extra for works)
			$E_{1}$	'=2.69*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
			5.48316E-06 g/m²/s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	50.9 %	
		Emission Factor Emission Rate	0.85 Mg/hectare/year 1.37258E-06 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
Roadworks Road 6 - viaduct (Concept F,	Heavy construction Source ID:	Percentage active area, p	34.5 %	Assume % works area for heavy construction
Option 3)	Q1: 18-RF2x, 18-RF4x, 18-RF9x, 18-RF10x, 18-RF11x, 18-			Water suppression 12 times a day
	RF17x, 18-RF16x, 18-RF19x, 18-RF21x, 18-RF25x, 18-RF26x, 18 RF29x, 18-RF30x, 18-RF33x, 18-RF35x, 18-RF36x, 18-RF37x	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 18-RF2x, 18-RF4x, 18-RF9x, 18-RF10x, 18-RF11x, 18- RF17x, 18-RF16x, 18-RF19x, 18-RF21x, 18-RF25x, 18-RF26x, 18			
	RF29x, 18-RF30x, 18-RF33x, 18-RF35x, 18-RF36x, 18-RF37x	No. of working days per month, d	30 days	
	Q3: 18-RF2x, 18-RF4x, 18-RF9x, 18-RF10x, 18-RF11x, 18- RF17x, 18-RF16x, 18-RF19x, 18-RF21x, 18-RF25x, 18-RF26x, 18			
	RF29x, 18-RF30x, 18-RF33x, 18-RF35x, 18-RF36x, 18-RF37x	No. of working hours per day, h	24 hour	
	Q4: 18-RF2x, 18-RF4x, 18-RF9x, 18-RF10x, 18-RF11x, 18- RF17x, 18-RF16x, 18-RF19x, 18-RF21x, 18-RF25x, 18-RF26x, 18	- Emission Easter	0.00 Me/heaters/meanth of activity	
	RF29x, 18-RF30x, 18-RF33x, 18-RF35x, 18-RF36x, 18-RF37x	Emission Factor	2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
				Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the
		Emission Rate	4.48053E-05 g/m <sup>2</sup> /s (unmitigated)	road is approximated to a line, assume width of 7.5m (i.e. 5m p
				width + 50% extra for works) '=2.69*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
			3.71884E-06 g/m <sup>2</sup> /s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	34.5 %	
		Emission Factor	0.85 Mg/hectare/year 9.30924E-07 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
		Emission Rate	J.JUJZ4E-U/ Y/11/8	ן (10 עס עס 24 כסב 100000 (1000 p/100 p/100
New APM	Heavy construction	Percentage active area, p	14.9 %	Assume % works area for heavy construction
Interchange Station (AIS)	Source ID:			Water suppression 12 times a day
	Q1:	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 18-AIS1x, 18-EVA7x Q3: 18-AIS1x, 18-EVA7x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4: 18-AIS1X, 18-EVA7X Q4: 18-AIS1X, 18-EVA7X	Emission Factor	2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
		Emission Rate	1.54845E-05 g/m²/s (unmitigated) 1.28521E-06 g/m²/s (mitigated)	=2.69*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion	Percentage active area, p	14.92 %	
	Source ID: (as above) Q1:	Emission Factor	0.85 Mg/hectare/year	AP42, Table 11.9-4
		Emission Rate	4.02153E-07 g/m²/s	=0.85*1000000/(10000*365*24*60*60)*p/100
Baggage Hall -	Heavy construction	Percentage active area, p	19.5 %	
Baggage Handling	Source ID:			Assume % works area for heavy construction Water suppression 12 times a day
System (BHS)	01:	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: Q2: 18-BHS1, 18-BHS2, 18-EVA9	No. of working days per month, d	30 days	Sources Final Report
	Q3: 18-BHS1, 18-BHS2, 18-EVA9 Q4: 18-BHS1, 18-BHS2, 18-EVA9	No. of working hours per day, h Emission Factor	24 hour 2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
		Emission Rate	2.02094E-05 g/m <sup>2</sup> /s (unmitigated) 1.67738E-06 g/m <sup>2</sup> /s (mitigated)	=2.69*1000000/(10000*d*h*60*60)*p/100
	Wind Exering		1.07750E-00 g/III-/S (IIIIIIgaleu)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	19.47 %	
	Q1:	Emission Factor Emission Rate	0.85 Mg/hectare/year 5.24866E-07 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100

Appendix 5.2.9 - Details of Dust Emission Sources for Tier 2 Hourly TSP Assessment at Year 2018					

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New APM Depot NAD)	Heavy construction Source ID:	Percentage active area, p	0.4 %	Assume % works area for heavy construction
,		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 18-NAD1, 18-NAD2 Q2: 18-NAD1, 18-NAD2	No. of working days per month, d	30 days	Sources Final Report
	Q3: 18-NAD1, 18-NAD2	No. of working hours per day, h	24 hour	
	Q4: 18-NAD1, 18-NAD2	Emission Factor	2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
		Emission Rate	4.30315E-07 g/m <sup>2</sup> /s (unmitigated) 3.57161E-08 g/m <sup>2</sup> /s (mitigated)	=2.69*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion	Percentage active area, p	0.41 %	
	Source ID: (as above) Q1: 18-NAD1, 18-NAD2	Emission Factor	0.85 Mg/hectare/year	AP42. Table 11.9-4
		Emission Rate	1.11759E-08 g/m²/s	=0.85*1000000/(10000*365*24*60*60)*p/100
HS and APM	Heavy construction	Percentage active area, p	0.5 %	
unnel	Source ID:			Assume % works area for heavy construction Water suppression 12 times a day
	Q1: 18-BAT1, 18-BAT2, 18-NAB4x	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 18-BAT1, 18-BAT2, 18-NAB4x	No. of working days per month, d	30 days	
	Q3: 18-BAT1, 18-BAT2, 18-NAB4x	No. of working hours per day, h	24 hour	
	Q4: 18-BAT1, 18-BAT2, 18-NAB4x	Emission Factor Emission Rate	2.69 Mg/hectare/month of activity 5.06735E-07 g/m <sup>2</sup> /s (unmitigated)	AP42, Section 13.2.3.3 =2.69*1000000/(10000*d*h*60*60)*p/100
			4.2059E-08 g/m <sup>2</sup> /s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.49 %	
	Q1: 18-BAT1, 18-BAT2, 18-NAB4x	Emission Factor	0.85 Mg/hectare/year	AP42, Table 11.9-4
		Emission Rate	1.31606E-08 g/m <sup>2</sup> /s	=0.85*1000000/(10000*365*24*60*60)*p/100
2 Expansion Area	Heavy construction Source ID:	Percentage active area, p	0.5 %	Assume % works area for heavy construction
				Water suppression 12 times a day
		Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 18-T2E-1x, 18-T2E-3, 18-AIS1x, 18-BHS2 Q2: 18-T2E-3	No. of working days per month, d	30 days	Sources Final Report
	Q3:	No. of working hours per day, h	24 hour	
	Q4:	Emission Factor	2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
		Emission Rate	5.52845E-07 g/m <sup>2</sup> /s (unmitigated) 4.58861E-08 g/m <sup>2</sup> /s (mitigated)	=2.69*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.5 %	
		Emission Factor	0.85 Mg/hectare/year	AP42, Table 11.9-4
		Emission Rate	1.43581E-08 g/m²/s	=0.85*1000000/(10000*365*24*60*60)*p/100
2 Expansion - Car	Heavy construction	Percentage active area, p	0.3 %	Assume % works area for heavy construction
ark North (North	Source ID:			Water suppression 12 times a day
Annex Building)		Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 18-NAB1x, 18-BHS1	ů i		Sources Final Report
	Q2: 18-NAB1x	No. of working days per month, d	30 days	
	Q3: Q4:	No. of working hours per day, h Emission Factor	24 hour 2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
		Emission Rate	3.62418E-07 d/m²/s (unmitidated)	1=2.69°1000000/(10000°0°0°60)°0/100
		Emission Rate	3.62418E-07 g/m <sup>2</sup> /s (unmitigated) 3.00807E-08 g/m <sup>2</sup> /s (mitigated)	=2.69*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Emission Rate Percentage active area, p		=2.69°1000000/(10000°a°n°60°60)°p/100
	Wind Erosion	Percentage active area, p Emission Factor	3.00807E-08 g/m²/s (mitigated) 0.3 % 0.85 Mg/hectare/year	AP42, Table 11.9-4
	Wind Erosion	Percentage active area, p	3.00807E-08 g/m²/s (mitigated)	
2 Expansion -	Wind Erosion Source ID: (as above) Heavy construction	Percentage active area, p Emission Factor	3.00807E-08 g/m²/s (mitigated) 0.3 % 0.85 Mg/hectare/year	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
ounge Limo (South	Wind Erosion Source ID: (as above) Heavy construction	Percentage active area, p Emission Factor Emission Rate	3.00807E-08 g/m²/s (mitigated) 0.3 % 0.85 Mg/hectare/year 9.4125E-09 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction
ounge Limo (South	Wind Erosion Source ID: (as above) Heavy construction Source ID:	Percentage active area, p Emission Factor Emission Rate	3.00807E-08 g/m²/s (mitigated) 0.3 % 0.85 Mg/hectare/year 9.4125E-09 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
ounge Limo (South	Wind Erosion Source ID: (as above) Heavy construction Source ID: Q1: 18-SAB	Percentage active area, p Emission Factor Emission Rate Percentage active area, p Mitigation efficiency	3.00807E-08 g/m²/s (mitigated) 0.3 % 0.85 Mg/hectare/year 9.4125E-09 g/m²/s 0.5 % 91.7 %	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day
ounge Limo (South	Wind Erosion Source ID: (as above) Heavy construction Source ID: Q1: 18-SAB Q2: 18-SAB	Percentage active area, p Emission Factor Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d	3.00807E-08 g/m²/s (mitigated) 0.3 % 0.85 Mg/hectare/year 9.4125E-09 g/m²/s 0.5 % 91.7 % 30 days	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
.ounge Limo (South	Wind Erosion Source ID: (as above) Heavy construction Source ID: Q1: 18-SAB	Percentage active area, p Emission Factor Emission Rate Percentage active area, p Mitigation efficiency	3.00807E-08 g/m²/s (mitigated) 0.3 % 0.85 Mg/hectare/year 9.4125E-09 g/m²/s 0.5 % 91.7 % 30 days 24 hour	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
.ounge Limo (South	Wind Erosion Source ID: (as above) Heavy construction Source ID: Q1: 18-SAB Q2: 18-SAB Q3:	Percentage active area, p Emission Factor Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h	3.00807E-08 g/m²/s (mitigated) 0.3 % 0.85 Mg/hectare/year 9.4125E-09 g/m²/s 0.5 % 91.7 % 30 days	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
.ounge Limo (South	Wind Erosion Source ID: (as above) Heavy construction Source ID: Q1: 18-SAB Q2: 18-SAB Q3: Q4: Wind Erosion	Percentage active area, p Emission Factor Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor Emission Rate	3.00807E-08 g/m²/s (mitigated) 0.3 % 0.85 Mg/hectare/year 9.4125E-09 g/m²/s 0.5 % 91.7 % 30 days 24 hour 2.69 Mg/hectare/month of activity 4.73687E-07 g/m²/s (unmitigated) 3.9316E-08 g/m²/s (mitigated)	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report AP42, Section 13.2.3.3
ounge Limo (South	Wind Erosion Source ID: (as above) Heavy construction Source ID: Q1: 18-SAB Q2: 18-SAB Q3: Q4:	Percentage active area, p Emission Factor Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor Emission Rate Percentage active area, p	3.00807E-08 g/m²/s (mitigated) 0.3 % 0.85 Mg/hectare/year 9.4125E-09 g/m²/s 0.5 % 91.7 % 30 days 24 hour 2.69 Mg/hectare/month of activity 4.73687E-07 g/m²/s (unmitigated) 3.9316E-08 g/m²/s (mitigated) 0.5 %	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report AP42, Section 13.2.3.3 =2.69*1000000/(10000*d*h*60*60)*p/100
Γ2 Expansion - Lounge Limo (South Annex Building)	Wind Erosion Source ID: (as above) Heavy construction Source ID: Q1: 18-SAB Q2: 18-SAB Q3: Q4: Wind Erosion	Percentage active area, p Emission Factor Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor Emission Rate	3.00807E-08 g/m²/s (mitigated) 0.3 % 0.85 Mg/hectare/year 9.4125E-09 g/m²/s 0.5 % 91.7 % 30 days 24 hour 2.69 Mg/hectare/month of activity 4.73687E-07 g/m²/s (unmitigated) 3.9316E-08 g/m²/s (mitigated)	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report AP42, Section 13.2.3.3

Works Area	Sources		Parameter	Remarks
hird Hunway Land	Heavy construction Source ID: For 24hrs activities:	Percentage active area, p	9.9 %	Assume % works area for heavy construction
	Q1: 19-2_01, 19-2_02A	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dus Sources Final Report
	Q2: 19-2_01, 19-2_02A, 19-2_05A	No. of working days per month, d	30 days	
	Q3: 19-2_01, 19-2_02A, 19-2_02B-1x, 19-2_02B-2, 19-2_05A	No. of working hours per day, h	24 hour	
	Q4: 19-2_02B-1x, 19-2_02B-2	Emission Factor Emission Rate	2.69 Mg/hectare/month of activity 1.02755E-05 g/m <sup>2</sup> /s (unmitigated) 8.52869E-07 g/m <sup>2</sup> /s (mitigated)	AP42, Section 13.2.3.3 =2.69*1000000/(10000*30*h*60*60)*p/100
	For night-time activities:	Percentage active area, p	9.9 %	
	Q1: 19-1_09-1, 19-1_09-2, 19-2_06-2x, 19-3_02A-2x, 19-3_02A- 1	Mitigation efficiency	91.7 %	
	Q2: 19-1_09-2, 19-2_04-1x, 19-2_06-2x, 19-2_09-1, 19-3_02A- 2x, 19-3_02A-1	No. of working days per month, d	30 days	
	Q3: 19-2_04-1x, 19-2_06-2x, 19-2_09-1, 19-3_02A-2x, 19-3_02A- 1	No. of working hours per day, h	12 (night) hour	
	Q4: 19-2_09-1	Emission Factor Emission Rate	2.69 Mg/hectare/month of activity 2.05511E-05 g/m²/s (unmitigated) 1.70574E-06 g/m²/s (mitigated)	AP42, Section 13.2.3.3 =2.69*1000000/(10000*30*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	9.9 %	
		Emission Factor Emission Rate	0.85 Mg/hectare/year 2.6687E-07 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
hird Runway	Wind Erosion	Percentage active area, p	20.0 %	Based on scheme design of definition for sand fill materials
Vind Erosion (only)	Source ID: Q1: 2_02B-1, 2_03A, 2_03B, 2_04-1, 2_04-2, 2_05A, 2_05B-1,	Emission Factor	0.85 Mg/hectare/year	consisting of coarse materials with size not exceeding 37.5 AP42, Table 11.9-4
	2_05B-2, 2_08, 2_09-1, 2_09-2, 3_02B Q2: 2_02B-1, 2_03A, 2_03B, 2_05B-1, 2_05B-2, 3_02B Q3: 1_09-2, 3_02B Q4: 3_02A-1, 3_02A-2, 3_02A-3, 3_02B	Emission Rate	5.39066E-07 g/m²/s	=0.85*1000000/(10000*365*24*60*60)*p/100
hird Runway Other		Percentage active area, p	3.8 %	Assume % works area for heavy construction
Construction Vorks/Facilities on ewly formed land	Q1: 19-1_02-1x, 19-1_03-1x, 19-1_04x, 19-1_05, 19-1_06-1x, 19- 1_07-1, 19-1_08A-1, 19-1_08B-1, 19-2_02B-2, 19-2_07A-1x, 19- 2_07B, 19-3_01A-1x, 19-4_04	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Du Sources Final Report
	Q2: 19-1_02-1x, 19-1_03-1x, 19-1_04x, 19-1_05, 19-1_06-1x, 19- 1_09-1, 19-2_02B-2, 19-2_07A-1x, 19-2_07B, 19-2_08, 19-2_09- 2, 19-4_04	No. of working days per month, d	30 days	
	Q3: 19-1_02-1x, 19-1_03-1x, 19-1_04x, 19-1_05, 19-1_06-1x, 19- 1_09-1, 19-2_03B, 19-2_05B-1x, 19-2_07A-1x, 19-2_07B, 19- 2_08, 19-2_09-2, 19-4_04	No. of working hours per day, h	24 hour	
	Q4: 19-1_09-1, 19-1_09-2, 19-2_01, 19-2_02A, 19-2_03B, 19- 2_04-1x, 19-2_05A, 19-2_05B-1x, 19-2_06-2x, 19-2_07A-1x, 19- 2_07B, 19-2_08, 19-2_09-2, 19-4_04	Emission Factor	2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
		Emission Rate	$3.93792E-06 \text{ g/m}^2/\text{s}$ (unmitigated)	=2.69*1000000/(10000*d*h*60*60)*p/100
			3.26847E-07 g/m <sup>2</sup> /s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p Emission Factor	3.20047E-07 g/m-/s (mitigated) 3.8 % 0.85 Mg/hectare/year	AP42, Table 11.9-4

Midfield	Heavy construction Source ID:	Percentage active area, p	2.0 %	Assume % works area for heavy construction
development (MD)	Q1: 19-MD Q2: 19-MD Q3: 19-MD Q4: 19-MD	Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor Emission Rate	91.7 % 30 days 24 hour 2.69 Mg/hectare/month of activity 2.06251E-06 g/m²/s (unmitigated) 1.71189E-07 g/m²/s (mitigated)	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report AP42, Section 13.2.3.3 =2.69*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p Emission Factor Emission Rate	2.0 % 0.85 Mg/hectare/year 5.35664E-08 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
South Cargo Roadworks - at grade	Heavy construction Source ID: Q1: 19-CA1x Q2: 19-CA1x Q3: 19-CA1x Q4: 19-CA1x	Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor Emission Rate	20.69 % 91.7 % 30 days 24 hour 2.69 Mg/hectare/month of activity 0.00025767 g/m²/s (unmitigated) 2.13866E-05 g/m²/s (mitigated)	Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report AP42, Section 13.2.3.3 Assume road width equals 12m, therefore multiply emission rate by 12m. =2.69*1000000/(10000*d*h*60*60)*p/100 * 12
	Wind Erosion Source ID: (as above)	Percentage active area, p Emission Factor Emission Rate	20.69 % 0.85 Mg/hectare/year 5.5767E-07 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
South Cargo Roadworks - viaduc	Heavy construction t Source ID: Q1: 19-CA3x, 19-CA6x Q2: 19-CA3x, 19-CA6x Q3: 19-CA3x, 19-CA6x Q4: 19-CA3x, 19-CA6x	Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor Emission Rate	20.7 % 91.7 % 30 days 24 hour 2.69 Mg/hectare/month of activity 2.68406E-05 g/m²/s (unmitigated) 2.22777E-06 g/m²/s (mitigated)	Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report AP42, Section 13.2.3.3 Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile width + 50% extra for works) '=2.69*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
	Wind Erosion Source ID: (as above)	Percentage active area, p Emission Factor Emission Rate	20.7 % 0.85 Mg/hectare/year 5.5767E-07 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100

etails of Dust Emission Sources for Tier 2 Hourly T			
Heavy construction Source ID:	Percentage active area, p	14.0 %	Assume % works area for heavy construction
RF29X, 19-RF30X, 19-RF33X, 19-RF35X, 19-RF36X, 19-RF37X	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
RF17x, 19-RF16x, 19-RF19x, 19-RF21x, 19-RF25x, 19-RF26x, 19 RF29x, 19-RF30x, 19-RF33x, 19-RF35x, 19-RF36x, 19-RF37x	No. of working days per month, d	30 days	
RF17x, 19-RF16x, 19-RF19x, 19-RF21x, 19-RF25x, 19-RF26x, 19 RF29x, 19-RF30x, 19-RF33x, 19-RF35x, 19-RF36x, 19-RF37x	No. of working hours per day, h	24 hour	
	Emission Factor	2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
	Emission Rate	1.82041E-05 g/m²/s (unmitigated) 1.51094E-06 g/m²/s (mitigated)	Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile width + 50% extra for works) '=2.69*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
Wind Erosion			
Source ID: (as above)	Percentage active area, p Emission Factor Emission Rate	14.0 % 0.85 Mg/hectare/year 3.78228E-07 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
Heavy construction	Percentage active area, p	7.6 %	Assume % works area for heavy construction
Source ID:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	No of working days per month d	30 days	Sources Final Report
Q3:	No. of working hours per day, h	24 hour	
Q4:	Emission Factor Emission Rate	2.69 Mg/hectare/month of activity 7.89692E-06 g/m²/s (unmitigated) 6.55445E-07 g/m²/s (mitigated)	AP42, Section 13.2.3.3 =2.69*1000000/(10000*d*h*60*60)*p/100
Wind Erosion	Percentage active area, p	7.61 %	
Q1: 19-AIS1x, 19-EVA7x	Emission Factor Emission Rate	0.85 Mg/hectare/year 2.05094E-07 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
Heavy construction Source ID:	Percentage active area, p	19.0 %	Assume % works area for heavy construction Water suppression 12 times a day
	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust
Q1: 19-BHS1, 19-BHS2, 19-EVA9 Q2:	No. of working days per month. d	30 davs	Sources Final Report
Q3: Q4: 19-BHS1, 19-BHS2, 19-EVA9	No. of working hours per day, h Emission Factor Emission Rate	24 hour 2.69 Mg/hectare/month of activity 1.97701E-05 g/m²/s (unmitigated) 1.64091E-06 g/m²/s (mitigated)	AP42, Section 13.2.3.3 =2.69*1000000/(10000*d*h*60*60)*p/100
Wind Erosion Source ID: (as above) Q1: 19-BHS1, 19-BHS2, 19-EVA9	Percentage active area, p Emission Factor Emission Rate	19.05 % 0.85 Mg/hectare/year 5.13456E-07 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
Heavy construction Source ID:	Percentage active area, p	0.4 %	Assume % works area for heavy construction Water suppression 12 times a day
Q1: 19-NAD1, 19-NAD2	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
Q2: 19-NAD1, 19-NAD2 Q3: 19-NAD1, 19-NAD2 Q4: 19-NAD2	No. of working days per month, d No. of working hours per day, h Emission Factor Emission Rate	30 days 24 hour 2.69 Mg/hectare/month of activity 4.30315E-07 g/m²/s (unmitigated) 3.57161E-08 g/m²/s (mitigated)	AP42, Section 13.2.3.3 =2.69*1000000/(10000*d*h*60*60)*p/100
Wind Erosion	Percentage active area, p	0.41 %	
Q1: 19-NAD1, 19-NAD2	Emission Factor Emission Rate	0.85 Mg/hectare/year 1.11759E-08 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
Heavy construction Source ID:	Percentage active area, p	0.5 %	Assume % works area for heavy construction Water suppression 12 times a day
	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	No of working days per month d	30 days	Sources Final Report
Q3: 19-BAT1, 19-BAT2, 19-NAB4x	No. of working hours per day, h	24 hour	AD40 Section 12.2.2.2
U4. 19-DATT	Emission Factor Emission Rate	5.06735E-07 g/m²/s (unmitigated) 4.2059E-08 g/m²/s (mitigated)	AP42, Section 13.2.3.3 =2.69*1000000/(10000*d*h*60*60)*p/100
Wind Erosion Source ID: (as above)	Percentage active area, p	0.49 %	
Q1: 19-BAT1, 19-BAT2, 19-NAB4x	Emission Factor Emission Rate	0.85 Mg/hectare/year 1.31606E-08 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
Heavy construction Source ID:	Percentage active area, p	3.1 %	Assume % works area for heavy construction
Q1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
Q2: Q3:		30 days 24 bour	
Q4: 19-AIS1x, 19-EVA7x, 19-NAB1x, 19-NAB4x, 19-BAT2, 19- NAD1	Emission Factor Emission Rate	2.69 Mg/hectare/month of activity 3.20453E-06 g/m <sup>2</sup> /s (unmitigated)	AP42, Section 13.2.3.3 =2.69*1000000/(10000*d*h*60*60)*p/100
		2.65976E-07 g/m <sup>2</sup> /s (mitigated)	
Wind Erosion	Percentage active area, p	2.65976E-07 g/m²/s (mitigated)	
	Source ID: Q1: 19-RF2x, 19-RF4x, 19-RF2x, 19-RF25x, 19-	Source D: 19. FAPE2: 10-FM24; 15-FM29; 13. FM200; 13. FM211; 15- FM272; 13-FM20; 15-FM21; 19. FM230; 19. FM2	Search D. Search D.

Works Area Sources			Parameter	Remarks
Third Runway Land	Heavy construction Source ID:	Percentage active area, p	0.1 %	
ormation	For 24hrs activities:			Assume % works area for heavy construction
	Q1:			Water eventseeing 10 times a day
		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
				Sources Final Report
	Q2:	No. of working days per month, d	30 days	
	Q3:	No. of working hours per day, h	24 hour	
	Q4:	Emission Factor	2.69 Mg/hectare/month of activity	AP42. Section 13.2.3.3
	ст.	Emission Rate	1.54885E-07 g/m <sup>2</sup> /s (unmitigated)	=2.69*1000000/(10000*30*h*60*60)*p/100
			1.28555E-08 g/m <sup>2</sup> /s (mitigated)	
	For night-time activities:	Percentage active area, p	٥/	
		r ercentage active area, p	0.1 %	
	Q1:	Mitigation efficiency	91.7 %	
	Q2: 20-3_02A-2x, 20-3_02A-1	No. of working days per month, d	30 days	
	Q3: 20-3_02A-2x, 20-3_02A-1			
		No. of working hours per day, h	12 (night) hour	
	Q4:	Emission Factor	2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
		Emission Rate	3.0977E-07 g/m²/s (unmitigated) 2.5711E-08 g/m²/s (mitigated)	=2.69*1000000/(10000*30*h*60*60)*p/100
			2.07 TE 00 g/m/3 (milgatod)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.1 %	
		Emission Factor	0.85 Mg/hectare/year	AP42, Table 11.9-4
		Emission Rate	4.02258E-09 g/m²/s	=0.85*1000000/(10000*365*24*60*60)*p/100
hird Runway	Wind Erosion	Percentage active area, p	20.0 %	Based on scheme design of definition for sand fill materials
Vind Exact ( 1)	Source ID: Q1: 2_09-1, 3_02A-1, 3_02A-2, 3_02A-3, 3_02B	Emission Factor	0.85 Mg/hectare/year	consisting of coarse materials with size not exceeding 37.5mm AP42, Table 11.9-4
Vind Erosion (only)	Q2: 2_09-1, 3_02B	Emission Rate	5.39066E-07 g/m²/s	=0.85*1000000/(10000*365*24*60*60)*p/100
	Q3: 2_09-1, 3_02B		-	
hird Runway Other	Q4: 3_02A-1, 3_02B Heavy construction	Percentage active area, p	4.0 %	
Construction	Source ID:	Fercentage active area, p	4.0 %	Assume % works area for heavy construction
Vorks/Facilities on	Q1: 20-1_09-1, 20-2_01, 20-2_02A, 20-2_02B-1x, 20-2_02B-2,			Water suppression 12 times a day
ewly formed land	20-2_03B, 20-2_05A, 20-2_05B-1x, 20-2_06-2x, 20-2_07A-1x, 20 2_07B, 20-2_08, 20-2_09-2	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 20-1_09-1, 20-2_01, 20-2_02A, 20-2_02B-1x, 20-2_02B-2,			Sources rinai hepoir
	20-2_03B, 20-2_05A, 20-2_05B-1x, 20-2_06-2x, 20-2_07A-1x, 20 2_07B, 20-2_08, 20-2_09-2	No. of working days per month, d	30 days	
	Q3: 20-1 09-1, 20-2 01, 20-2 02A, 20-2 02B-1x, 20-2 02B-2,			
	20-2_03B, 20-2_05A, 20-2_05B-1x, 20-2_07A-1x, 20-2_07B, 20-	No. of working hours per day, h	24 hour	
	2_08, 20-2_09-2 Q4: 20-2_01, 20-2_02A, 20-2_02B-1x, 20-2_02B-2, 20-2_03B,			
	20-2_05A, 20-2_05B-1x, 20-2_07A-1x, 20-2_07B, 20-2_09-1, 20-	Emission Factor	2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
	3_02A-2x	Emission Rate	4.16072E-06 g/m <sup>2</sup> /s (unmitigated)	=2.69*1000000/(10000*d*h*60*60)*p/100
			3.4534E-07 g/m <sup>2</sup> /s (mitigated)	
	Wind Erosion Source ID: (as above)	Percentage active area, p	4.0 %	
		Emission Factor	0.85 Mg/hectare/year	AP42, Table 11.9-4
		Emission Rate	1.0806E-07 g/m²/s	=0.85*1000000/(10000*365*24*60*60)*p/100
Aidfield	Heavy construction		10.0/	
/lidfield levelopment (MD)	Source ID:	Percentage active area, p	1.9 %	Assume % works area for heavy construction
				Water suppression 12 times a day
	Q1: 20-MD	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 20-MD Q2: 20-MD	No. of working days per month, d	30 days	Sources Final Report
	Q3: 20-MD	No. of working hours per day, h	24 hour	
	Q4: 20-MD	Emission Factor	2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
		Emission Rate	1.99764E-06 g/m²/s (unmitigated) 1.65804E-07 g/m²/s (mitigated)	=2.69*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion	Percentage active area, p	1.9 %	
	Wind Erosion Source ID: (as above)	Percentage active area, p Emission Factor	1.9 %	AP42, Table 11.9-4
		C III		AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
		Emission Factor	1.9 % 0.85 Mg/hectare/year	
Vestern Support	Source ID: (as above)	Emission Factor Emission Rate	1.9 % 0.85 Mg/hectare/year 5.18814E-08 g/m²/s	=0.85*1000000/(10000*365*24*60*60)*p/100
Area Emergency		Emission Factor	1.9 % 0.85 Mg/hectare/year	=0.85*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction
area Emergency access Road	Source ID: (as above) Heavy construction	Emission Factor Emission Rate Percentage active area, p	1.9 % 0.85 Mg/hectare/year 5.18814E-08 g/m²/s 55.2 %	=0.85*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day
area Emergency access Road	Source ID: (as above) Heavy construction	Emission Factor Emission Rate	1.9 % 0.85 Mg/hectare/year 5.18814E-08 g/m²/s	=0.85*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
area Emergency access Road	Source ID: (as above) Heavy construction Source ID: Q1: 20-WSA2x, 20-WSA4x Q2: 20-WSA2x, 20-WSA4x	Emission Factor Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d	1.9 % 0.85 Mg/hectare/year 5.18814E-08 g/m²/s 55.2 %	=0.85*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day
Area Emergency Access Road	Source ID: (as above) Heavy construction Source ID: Q1: 20-WSA2x, 20-WSA4x Q2: 20-WSA2x, 20-WSA4x Q3: 20-WSA2x, 20-WSA4x	Emission Factor Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h	1.9 % 0.85 Mg/hectare/year 5.18814E-08 g/m²/s 55.2 % 91.7 % 30 days 24 hour	=0.85*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
Area Emergency Access Road	Source ID: (as above) Heavy construction Source ID: Q1: 20-WSA2x, 20-WSA4x Q2: 20-WSA2x, 20-WSA4x	Emission Factor Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d	1.9 % 0.85 Mg/hectare/year 5.18814E-08 g/m²/s 55.2 % 91.7 % 30 days	=0.85*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report AP42, Section 13.2.3.3
Western Support Area Emergency Access Road flyover)	Source ID: (as above) Heavy construction Source ID: Q1: 20-WSA2x, 20-WSA4x Q2: 20-WSA2x, 20-WSA4x Q3: 20-WSA2x, 20-WSA4x	Emission Factor Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h	1.9 % 0.85 Mg/hectare/year 5.18814E-08 g/m²/s 55.2 % 91.7 % 30 days 24 hour	=0.85*1000000/(10000*365*24*60*60)*p/100 Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report AP42, Section 13.2.3.3 Assume 30m spacing between road piers (base:5mx 5m),
Area Emergency Access Road	Source ID: (as above) Heavy construction Source ID: Q1: 20-WSA2x, 20-WSA4x Q2: 20-WSA2x, 20-WSA4x Q3: 20-WSA2x, 20-WSA4x	Emission Factor Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h	1.9 % 0.85 Mg/hectare/year 5.18814E-08 g/m²/s 55.2 % 91.7 % 30 days 24 hour	<ul> <li>=0.85*1000000/(10000*365*24*60*60)*p/100</li> <li>Assume % works area for heavy construction</li> <li>Water suppression 12 times a day</li> <li>Equation (3-2) in the USEPA's Control of Open Fugitive Dust</li> <li>Sources Final Report</li> <li>AP42, Section 13.2.3.3</li> <li>Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the</li> </ul>
Area Emergency Access Road	Source ID: (as above) Heavy construction Source ID: Q1: 20-WSA2x, 20-WSA4x Q2: 20-WSA2x, 20-WSA4x Q3: 20-WSA2x, 20-WSA4x	Emission Factor Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor	1.9 % 0.85 Mg/hectare/year 5.18814E-08 g/m²/s 55.2 % 91.7 % 30 days 24 hour 2.69 Mg/hectare/month of activity	<ul> <li>=0.85*1000000/(10000*365*24*60*60)*p/100</li> <li>Assume % works area for heavy construction</li> <li>Water suppression 12 times a day</li> <li>Equation (3-2) in the USEPA's Control of Open Fugitive Dust</li> <li>Sources Final Report</li> <li>AP42, Section 13.2.3.3</li> <li>Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m p width + 50% extra for works)</li> </ul>
rea Emergency Access Road	Source ID: (as above) Heavy construction Source ID: Q1: 20-WSA2x, 20-WSA4x Q2: 20-WSA2x, 20-WSA4x Q3: 20-WSA2x, 20-WSA4x	Emission Factor Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor	1.9 %         0.85 Mg/hectare/year         5.18814E-08 g/m²/s         55.2 %         91.7 %         30 days         24 hour         2.69 Mg/hectare/month of activity         7.15757E-05 g/m²/s (unmitigated)	<ul> <li>=0.85*1000000/(10000*365*24*60*60)*p/100</li> <li>Assume % works area for heavy construction</li> <li>Water suppression 12 times a day</li> <li>Equation (3-2) in the USEPA's Control of Open Fugitive Dust</li> <li>Sources Final Report</li> <li>AP42, Section 13.2.3.3</li> <li>Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m p</li> </ul>
rea Emergency Access Road	Source ID: (as above) Heavy construction Source ID: Q1: 20-WSA2x, 20-WSA4x Q2: 20-WSA2x, 20-WSA4x Q3: 20-WSA2x, 20-WSA4x	Emission Factor Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor	1.9 % 0.85 Mg/hectare/year 5.18814E-08 g/m²/s 55.2 % 91.7 % 30 days 24 hour 2.69 Mg/hectare/month of activity	<ul> <li>=0.85*1000000/(10000*365*24*60*60)*p/100</li> <li>Assume % works area for heavy construction</li> <li>Water suppression 12 times a day</li> <li>Equation (3-2) in the USEPA's Control of Open Fugitive Dust</li> <li>Sources Final Report</li> <li>AP42, Section 13.2.3.3</li> <li>Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m p width + 50% extra for works)</li> </ul>
area Emergency access Road	Source ID: (as above) Heavy construction Source ID: Q1: 20-WSA2x, 20-WSA4x Q2: 20-WSA2x, 20-WSA4x Q3: 20-WSA2x, 20-WSA4x Q4: 20-WSA2x, 20-WSA4x Wind Erosion	Emission Factor Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor Emission Rate	1.9 %         0.85 Mg/hectare/year         5.18814E-08 g/m²/s         55.2 %         91.7 %         30 days         24 hour         2.69 Mg/hectare/month of activity         7.15757E-05 g/m²/s (unmitigated)         5.94078E-06 g/m²/s (mitigated)	<ul> <li>=0.85*1000000/(10000*365*24*60*60)*p/100</li> <li>Assume % works area for heavy construction</li> <li>Water suppression 12 times a day</li> <li>Equation (3-2) in the USEPA's Control of Open Fugitive Dust</li> <li>Sources Final Report</li> <li>AP42, Section 13.2.3.3</li> <li>Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pi width + 50% extra for works)</li> </ul>
rea Emergency Access Road	Source ID: (as above) Heavy construction Source ID: Q1: 20-WSA2x, 20-WSA4x Q2: 20-WSA2x, 20-WSA4x Q3: 20-WSA2x, 20-WSA4x Q4: 20-WSA2x, 20-WSA4x	Emission Factor Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor Emission Rate Percentage active area, p	1.9 %         0.85 Mg/hectare/year         5.18814E-08 g/m²/s         55.2 %         91.7 %         30 days         24 hour         2.69 Mg/hectare/month of activity         7.15757E-05 g/m²/s (unmitigated)         5.94078E-06 g/m²/s (mitigated)         55.2 %	<ul> <li>=0.85<sup>*</sup>1000000/(10000*365*24*60*60)*p/100</li> <li>Assume % works area for heavy construction</li> <li>Water suppression 12 times a day</li> <li>Equation (3-2) in the USEPA's Control of Open Fugitive Dust</li> <li>Sources Final Report</li> <li>AP42, Section 13.2.3.3</li> <li>Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pi width + 50% extra for works)</li> <li>'=2.69*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5</li> </ul>
rea Emergency ccess Road	Source ID: (as above) Heavy construction Source ID: Q1: 20-WSA2x, 20-WSA4x Q2: 20-WSA2x, 20-WSA4x Q3: 20-WSA2x, 20-WSA4x Q4: 20-WSA2x, 20-WSA4x Wind Erosion	Emission Factor Emission Rate Percentage active area, p Mitigation efficiency No. of working days per month, d No. of working hours per day, h Emission Factor Emission Rate	1.9 %         0.85 Mg/hectare/year         5.18814E-08 g/m²/s         55.2 %         91.7 %         30 days         24 hour         2.69 Mg/hectare/month of activity         7.15757E-05 g/m²/s (unmitigated)         5.94078E-06 g/m²/s (mitigated)	<ul> <li>=0.85*1000000/(10000*365*24*60*60)*p/100</li> <li>Assume % works area for heavy construction</li> <li>Water suppression 12 times a day</li> <li>Equation (3-2) in the USEPA's Control of Open Fugitive Dust</li> <li>Sources Final Report</li> <li>AP42, Section 13.2.3.3</li> <li>Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m p width + 50% extra for works)</li> </ul>

Western Support	Heavy construction	Percentage active area, p	55.2 %	Assume % works area for heavy construction
Area Emergency Access Road (at	Source ID:			Water suppression 12 times a day
Irade)	Q1: 20-WSA5x	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 20-W SA5x	No. of working days per month, d	30 days	
	Q3: 20-WSA5x	No. of working hours per day, h	24 hour	
	Q4: 20-WSA5x	Emission Factor	2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
		Emission Rate	0.000687127 g/m <sup>2</sup> /s (unmitigated)	Assume road width equals 12m, therefore multiply emission r by 12m. =2.69*1000000/(10000*d*h*60*60)*p/100 * 12
			5.70315E-05 g/m²/s (mitigated)	
	Wind Erosion	Percentage active area, p	55.2 %	
	Source ID: (as above)	Emission Factor	0.85 Mg/hectare/year	AP42, Table 11.9-4
		Emission Rate	1.48714E-06 g/m²/s	=0.85*1000000/(10000*365*24*60*60)*p/100
New APM	Heavy construction	Percentage active area, p	4.3 %	Assume % works area for heavy construction
nterchange Station AIS)	Source ID:			Water suppression 12 times a day
	Q1: 20-AIS1x, 20-EVA7x	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 20-AIS1x, 20-EVA7x Q3:	No. of working days per month, d	30 days	
	Q4:	No. of working hours per day, h Emission Factor	24 hour 2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
		Emission Rate	4.4713E-06 g/m²/s (unmitigated) 3.71118E-07 g/m²/s (mitigated)	=2.69*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	4.31 %	
	Q1: 20-AIS1x, 20-EVA7x	Emission Factor	0.85 Mg/hectare/year	AP42, Table 11.9-4
		Emission Rate	1.16126E-07 g/m²/s	=0.85*1000000/(10000*365*24*60*60)*p/100
Baggage Hall - Baggage Handling	Heavy construction Source ID:	Percentage active area, p	9.2 %	Assume % works area for heavy construction
System (BHS)		Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 20-BHS1, 20-BHS2, 20-EVA9 Q2: 20-BHS1, 20-BHS2, 20-EVA9	No. of working days per month, d	30 days	Sources Final Report
	Q3:	No. of working hours per day, h	24 hour	
	Q4:	Emission Factor Emission Rate	2.69 Mg/hectare/month of activity 9.58527E-06 g/m <sup>2</sup> /s (unmitigated) 7.95578E-07 g/m <sup>2</sup> /s (mitigated)	AP42, Section 13.2.3.3 =2.69*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	9.24 %	
	Q1: 20-BHS1, 20-BHS2, 20-EVA9	Emission Factor Emission Rate	0.85 Mg/hectare/year 2.48943E-07 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
New APM Depot NAD)	Heavy construction Source ID:	Percentage active area, p	0.4 %	Assume % works area for heavy construction Water suppression 12 times a day
	Q1: 20-NAD2	Mitigation efficiency	91.7 %	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: 20-NAD1, 20-NAD2	No. of working days per month, d	30 days	
	Q3: 20-NAD1, 20-NAD2	No. of working hours per day, h	24 hour	
	Q4:	Emission Factor Emission Rate	2.69 Mg/hectare/month of activity 4.30315E-07 g/m²/s (unmitigated) 3.57161E-08 g/m²/s (mitigated)	AP42, Section 13.2.3.3 =2.69*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.41 %	
		Emission Factor Emission Rate	0.85 Mg/hectare/year 1.11759E-08 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
3HS and APM unnel	Heavy construction Source ID:	Percentage active area, p	0.4 %	Assume % works area for heavy construction
	04-00 PAT1	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 20-BAT1 Q2: 20-BAT1, 20-BAT2, 20-NAB4x	No. of working days per month, d	30 days	Sources Final Report
	Q3:	No. of working hours per day, h	24 hour	
	Q4:	Emission Factor Emission Rate	2.69 Mg/hectare/month of activity 4.34345E-07 g/m <sup>2</sup> /s (unmitigated) 3.60506E-08 g/m <sup>2</sup> /s (mitigated)	AP42, Section 13.2.3.3 =2.69*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p	0.42 %	
	Q1: 20-BAT1	Emission Factor Emission Rate	0.85 Mg/hectare/year 1.12805E-08 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
T2 Expansion Area	Heavy construction	Percentage active area, p	0.5 %	
	Source ID:	n sioontago aotive area, p	0.0 /0	Assume % works area for heavy construction Water suppression 12 times a day

Q1: 20-NAB1x, 20-NAB4x, 20-BAT2, 20-NAD1	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
Q2: 20-NAB1x Q3:	No. of working days per month, d	30 days	
Q4:	No. of working hours per day, h Emission Factor Emission Rate	24 hour 2.69 Mg/hectare/month of activity 4.69489E-07 g/m²/s (unmitigated) 3.89676E-08 g/m²/s (mitigated)	AP42, Section 13.2.3.3 =2.69*1000000/(10000*d*h*60*60)*p/100
Wind Erosion Source ID: (as above)	Percentage active area, p Emission Factor	0.5 % 0.85 Mg/hectare/year	AP42, Table 11.9-4
	Emission Rate	1.21933E-08 g/m²/s	=0.85*1000000/(10000*365*24*60*60)*p/100

Works Area	Sources		Parameter	Remarks
hird Runway	Wind Erosion Source ID:	Percentage active area, p	20.0 %	Based on scheme design of definition for sand fill materials consisting of coarse materials with size not exceeding 37.5mm ar
/ind Erosion (only)	Q1: 3_02A-1, 3_02B Q2: 3_02A-1, 3_02B Q3: 3_02A-1, 3_02B Q4: 3_02A-1, 3_02B	Emission Factor Emission Rate	0.85 Mg/hectare/year 5.39066E-07 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
hird Runway Other	Heavy construction Source ID:	Percentage active area, p	1.3 %	Assume % works area for heavy construction
/orks/Facilities on ewly formed land	2_05A, 21-2_05B-1x, 21-2_07A-1x, 21-2_07B, 21-2_09-1, 21-3_02A-2x	Mitigation efficiency 91.7 %		Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	02: 21-2_01, 21-2_02A, 21-2_02B-1x, 21-2_02B-2, 21-2_03B, 21- 2_05A, 21-2_05B-1x, 21-2_07A-1x, 21-2_07B, 21-3_01A-1x, 21-3_01A- 3, 21-4_01-3x, 21-4_05-1 03: 21-2_01, 21-2_02A, 21-2_02B-1x, 21-2_02B-2, 21-2_03B, 21-		30 days	
	2_05A, 21-2_05B-1x, 21-2_07A-1x, 21-2_07B, 21-3_01A-1x, 21-3_01A- 3, 21-3_01Bx, 21-4_01-3x, 21-4_05-1	No. of working hours per day, h	24 hour	
	Q4: 21-2_01, 21-2_02A, 21-2_02B-1x, 21-2_02B-2, 21-2_03B, 21- 2_05A, 21-2_05B-1x, 21-2_07A-1x, 21-2_07B, 21-3_01A-1x, 21-3_01A- 3, 21-4_01-3x, 21-4_03-1x, 21-4_05-1	Emission Factor	2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
		Emission Rate	1.33656E-06 g/m²/s (unmitigated) 1.10934E-07 g/m²/s (mitigated)	=2.69*1000000/(10000*d*h*60*60)*p/100
		Percentage active area, p Emission Factor Emission Rate	1.3 % 0.85 Mg/hectare/year 3.47122E-08 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
irside tunnels (AT)	Heavy construction Source ID:	Percentage active area, p	0.6 %	Assume % works area for heavy construction Water suppression 12 times a day
	Q1: Q2: 21-AT1, 21-AT3	Mitigation efficiency No. of working days per month, d	91.7 % 30 days	Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
		No. of working hours per day, h Emission Factor Emission Rate	24 hour 2.69 Mg/hectare/month of activity 6.44266E-07 g/m²/s (unmitigated) 5.3474E-08 g/m²/s (mitigated)	AP42, Section 13.2.3.3 =2.69*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p Emission Factor Emission Rate	0.6 % 0.85 Mg/hectare/year 1.67325E-08 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
<i>f</i> idfield development MD)	Heavy construction Source ID:	Percentage active area, p Mitigation efficiency	0.8 %	Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: 21-MD Q2: 21-MD	No. of working days per month, d	30 days	Sources Final Report
	Q3: 21-MD Q4: 21-MD	No. of working hours per day, h Emission Factor Emission Rate	24 hour 2.69 Mg/hectare/month of activity 7.99211E-07 g/m²/s (unmitigated) 6.63345E-08 g/m²/s (mitigated)	AP42, Section 13.2.3.3 =2.69*1000000/(10000*d*h*60*60)*p/100
	Wind Erosion Source ID: (as above)	Percentage active area, p Emission Factor Emission Rate	0.8 % 0.85 Mg/hectare/year 2.07566E-08 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
South Cargo Roadworks - at grade		Percentage active area, p Mitigation efficiency	8.03 %	Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust
	Q1: Q2: Q3: 21-CA1x Q4: 21-CA1x	No. of working days per month, d No. of working hours per day, h Emission Factor	30 days 24 hour 2.69 Mg/hectare/month of activity	Sources Final Report AP42, Section 13.2.3.3 Assume road width equals 12m, therefore multiply emission rate b
		Emission Rate	9.99412E-05 g/m²/s (unmitigated) 8.29512E-06 g/m²/s (mitigated)	12m. =2.69*1000000/(10000*d*h*60*60)*p/100 * 12
	Wind Erosion Source ID: (as above)	Percentage active area, p Emission Factor Emission Rate	8.03 % 0.85 Mg/hectare/year 2.16301E-07 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
South Cargo Roadworks - viaduct	Heavy construction Source ID:	Percentage active area, p	8.0 %	Assume % works area for heavy construction
	Q1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: Q3: 21-CA3x, 21-CA6x Q4: 21-CA3x, 21-CA6x	No. of working days per month, d No. of working hours per day, h Emission Factor	30 days 24 hour 2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3 Assume 30m spacing between road piers (base:5mx 5m), therefo
		Emission Rate	1.04105E-05 g/m²/s (unmitigated)	total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile width + 50% extra for works)
			8.64075E-07 g/m²/s (mitigated)	'=2.69*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
	Wind Erosion Source ID: (as above)	Percentage active area, p Emission Factor Emission Rate	8.0 % 0.85 Mg/hectare/year 2.16301E-07 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100
loadworks Road 6 - aduct (Concept F,	Heavy construction Source ID:	Percentage active area, p	5.4 %	Assume % works area for heavy construction
pption 3)	Q1:	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report
	Q2: Q3: 21-RF2x, 21-RF4x, 21-RF9x, 21-RF10x, 21-RF11x, 21-RF17x, 21- RF16x, 21-RF19x, 21-RF21x, 21-RF25x, 21-RF26x, 21-RF29x, 21- RF30x, 21-RF33x, 21-RF35x, 21-RF36x, 21-RF37x	No. of working days per month, d No. of working hours per day, h	30 days 24 hour	
	Q4: 21-RF2x, 21-RF4x, 21-RF9x, 21-RF10x, 21-RF11x, 21-RF17x, 21- RF16x, 21-RF19x, 21-RF21x, 21-RF25x, 21-RF26x, 21-RF29x, 21- RF30x, 21-RF33x, 21-RF35x, 21-RF36x, 21-RF37x	Emission Factor	2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3
		Emission Rate	7.06073E-06 g/m²/s (unmitigated)	Assume 30m spacing between road piers (base:5mx 5m), therefore total active area equals 5m divided by 30m. Since the road is approximated to a line, assume width of 7.5m (i.e. 5m pile width + 50% extra for works)
			5.8604E-07 g/m²/s (mitigated)	'=2.69*1000000/(10000*30*h*60*60)*p/100 * (5/30) * 7.5
	Wind Erosion Source ID: (as above)	Percentage active area, p Emission Factor Emission Rate	5.4 % 0.85 Mg/hectare/year 1.46701E-07 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100

Third Runway Work Areas					
Works Area	Sources		Parameter	Remarks	
Third Runway Land Formation	Heavy construction Source ID: For 24hrs activities:	Percentage active area, p	0.6 %	Assume % works area for heavy construction	
	Q1: 22-3_02B	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report	
	Q2:	No. of working days per month, d	30 days		
	Q3:	No. of working hours per day, h	24 hour		
	Q4: 22-3_02B	Emission Factor Emission Rate	2.69 Mg/hectare/month of activity 6.58277E-07 g/m <sup>2</sup> /s (unmitigated) 5.4637E-08 g/m <sup>2</sup> /s (mitigated)	AP42, Section 13.2.3.3 =2.69*1000000/(10000*30*h*60*60)*p/100	
	Wind Erosion Source ID: (as above)	Percentage active area, p Emission Factor Emission Rate	0.6 % 0.85 Mg/hectare/year 1.70964E-08 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100	
Third Runway Wind Erosion (only)	Wind Erosion Source ID: Q1: 3_02A-1 Q2: 3_02A-1 Q3: 3_02B	Percentage active area, p Emission Factor Emission Rate	20.0 % 0.85 Mg/hectare/year 5.39066E-07 g/m²/s	Based on scheme design of definition for sand fill materials consisting of coarse materials with size not exceeding 37.5mm AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100	
	Q4:				
Third Runway Other Construction	Heavy construction Source ID:	Percentage active area, p	2.5 %	Assume % works area for heavy construction	
Works/Facilities on newly formed land	Q1: 22-2_01, 22-2_02A, 22-2_02B-1x, 22-2_02B-2, 22-2_03B, 22-2_05A, 22-2_05B-1x, 22-2_07A-1x, 22-2_07B, 22-3_01A-1x, 22-3_01A-3, 22-4_01-3x, 22-4_03-1x, 22-4_05-1	Mitigation efficiency	91.7 %	Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report	
	Q2: 22-2_01, 22-2_02A, 22-2_02B-1x, 22-2_02B-2, 22-2_03B, 22-2_05A, 22-2_05B-1x, 22-2_07A-1x, 22-2_07B, 22-3_01A-3, 22-3_02B, 22-4_03-1x, 22-4_05-1	No. of working days per month, d	30 days		
	Q3: 22-2_01, 22-2_02A, 22-2_02B-1x, 22-2_02B-2, 22-2_03B, 22-2_05A, 22-2_05B-1x, 22-2_07A-1x, 22-2_07B, 22-3_02A-1, 22-4_05-1	No. of working hours per day, h	24 hour		
	Q <sup>+-</sup> 22-2_01, 22-2_02A, 22-2_02B-1x, 22-2_03B, 22-2_05A, 22-2_05B-1x, 22-4_05-1	Emission Factor	2.69 Mg/hectare/month of activity	AP42, Section 13.2.3.3	
	2_000 17, 22 4_00 1	Emission Rate	2.6174E-06 g/m²/s (unmitigated) 2.17244E-07 g/m²/s (mitigated)	=2.69*1000000/(10000*d*h*60*60)*p/100	
	Wind Erosion Source ID: (as above)	Percentage active area, p	2.5 %		
		Emission Factor Emission Rate	0.85 Mg/hectare/year 6.79774E-08 g/m²/s	AP42, Table 11.9-4 =0.85*1000000/(10000*365*24*60*60)*p/100	
Airside tunnels (AT)	Heavy construction	Percentage active area, p	1.0 %		
	Source ID: Q1: 22-AT1, 22-AT2, 22-AT3	Mitigation efficiency	91.7 %	Assume % works area for heavy construction Water suppression 12 times a day Equation (3-2) in the USEPA's Control of Open Fugitive Dust Sources Final Report	
	Q2: 22-AT2, 22-AT3 Q3: 22-AT3 Q4: 22-AT3	No. of working days per month, d No. of working hours per day, h Emission Factor Emission Rate	30 days 24 hour 2.69 Mg/hectare/month of activity 9.9179E-07 g/m²/s (unmitigated) 8.23185E-08 g/m²/s (mitigated)	AP42, Section 13.2.3.3 =2.69*1000000/(10000*d*h*60*60)*p/100	
	Wind Erosion Source ID: (as above)	Percentage active area, p Emission Factor	1.0 % 0.85 Mg/hectare/year	AP42, Table 11.9-4	

### Appendix 5.2.8 - Details of Dust Emission Sources for TSP Assessment (Tier 1)

### Floating Concrete Batching Plant

Description	Sources	Parameter		Emission Rate	Remarks
Floating Concrete	Unloading aggregate	Consumption Rate		Mg/h (Concrete)	From engineer: Concrete: 39.6 ton/hr = 1900 ton / (2 days * 24 h)
	Source ID:	Aggregate tank capacity		tons	From engineer
Unloading of raw aterials)	F-EP1	Refill frequency	2	days	From engineer
lateriais)		Particle size multiplier, k	0.74		For TSP, AP-42, section 13.2.4, 11/06 ed.
		Moisture content, M		%	Assume as the same as land-based CBP
		Mean wind speed, U		m/s	HKOAMO 2012 annual average wind speed
		Emission Factor, E	3.35E-03	kg/Mg	E=k x (0.0016) x ((U/2.2)^1.3/(M/2)^1.4)
					(AP-42, section 13.2.4, 11/06 ed.)
			0.13	kg/hr (Concrete)	
			0.10		
		Mitigation efficiency	99	%	Fully covered and handling with water spraying system (From engine
		No. of operation hours Emission height		hr m	Assume worst case From engineer
		Emotion neight	10		i ion origineer
		Emission Rate		g/s (mitigated) (Concrete)	
loating Concrete		Density	2.24	Mg/m3	For Concrete density, refer to this website
	Source ID:				"http://www.aqua-calc.com/page/density-table/substance/concrete-c
Cement / PFA / SF Silos)	F-EP2	TSP emission factor	50	mg/m3	and-blank-asphalt" Concretration limit, Annex I, A Guidance Note on the Best Praticable
51 51105)			50	ing/ins	Means for Cement Works (Concrete Batching Plant), EPD
			1		
		Cement silo capacity (Each silo)		tons	From engineer
		Refill frequency		days	From engineer
		Dust exhaust flow rate (Total 4 silos)		tons/hr (Concrete) m3/hr (Concrete)	From engineer: 7.33 ton/hr = 4 silos * (110 ton / (2.5 days * 24 h)) For concrete density: 2.24 tons/m3
			3.3		For concrete density: 2.24 tons/m3
		No. of operation hours	24	hr	Assume worst case
		No. of small cement silos	4		From engineer
		Emission height	10	m	From engineer
		Emission Rate (Total 4 silos)	4.55E-05	g/s (mitigated) (Concrete)	
	PFA Silos	Density	2.24	Mg/m3	For Concrete density, refer to this website
	Source ID:			<b>3</b>	"http://www.aqua-calc.com/page/density-table/substance/concrete-o
					and-blank-asphalt"
	F-EP3	TSP emission factor	50	mg/m3	Concretration limit, Annex I, A Guidance Note on the Best Praticable
					Means for Cement Works (Concrete Batching Plant), EPD
		PFA silo capacity (Each silo)	90	tons	From engineer
		Refill frequency		days	From engineer
		Dust exhaust flow rate (Total 2 silos)		tons/hr (Concrete)	From engineer: 3.75 ton/hr = 2 silos * (90 ton / (2 days * 24 h))
			1.7	m3/hr (Concrete)	For concrete density: 2.24 tons/m3
		No. of operation hours No. of PFA silos	24	hr	Assume worst case From engineer
		Emission height	10		From engineer
		Emission Rate (Total 2 silos)	-	g/s (mitigated) (Concrete)	
	0.05.00				
	CSF Silos Source ID:	Density	2.24	Mg/m3	For Concrete density, refer to this website
					"http://www.aqua-calc.com/page/density-table/substance/concrete- and-blank-asphalt"
	F-EP4	TSP emission factor	50	mg/m3	Concretration limit, Annex I, A Guidance Note on the Best Praticable
				°	Means for Cement Works (Concrete Batching Plant), EPD
		CSF silo capacity (Each silo)		tons	From engineer
		Refill frequency Dust exhaust flow rate (Total 2 silos)		days tons/hr (Concrete)	From engineer From engineer: 0.5 ton/hr = 2 silos * (30 ton / (5 days * 24 h))
		Dast exhaust now rate (10tal 2 silos)		m3/hr (Concrete)	For concrete density: 2.24 tons/m3
			5.2	(/	
		No. of operation hours		hr	Assume worst case
		No. of CSF silos	2		From engineer
		Emission height		m	From engineer
		Emission Rate (Total 2 silos)	3.10E-06	g/s (mitigated) (Concrete)	
			1		
loating Concrete		Density	2.24	Mg/m3	For Concrete density, refer to this website
	Source ID:				"http://www.aqua-calc.com/page/density-table/substance/concrete-c
Vixing Tower)		TSB omission factor		ma/m2	and-blank-asphalt"
	F-EP5	TSP emission factor	50	mg/m3	Concretration limit, Annex I, A Guidance Note on the Best Praticable Means for Cement Works (Concrete Batching Plant), EPD
			1		INCARS IN COMENT WORKS (CONCIERE DATCHING FIGHT), EPD
		Dust exhaust flow rate (Total 2 mixers)	560	tons/hr (Concrete)	From engineer: 280 ton/hr * 2 mixers
			250.0	m3/hr (Concrete)	For concrete density: 2.24 tons/m3
		No. of execution 1		h a	A
		No. of operation hours		hr	Assume worst case
		No. of mixers Emission height	17	m	From engineer From engineer
		Emission Rate (Total 2 mixers)		g/s (mitigated) (Concrete)	i ion orginoor