

**Appendix 3.1**  
**Calculation of Dust Emission**

Appendix 3.1 Calculation of Dust Emission			
Scenario 1			
Description of Dust Emission Source			
1	Heavy construction activities	TSP	Remarks
	TSP emission factor (Mg/hectare/month of activity)	2.69	from AP-42, 5th ed., S13.2.3.3
	Percentage area actively operating (%)	50	
	Assuming no dust mitigation:-		
	Area source emissions:		
	E (g/m <sup>2</sup> /s)	1.245370E-04	calculated (based on 30 working days and 10 hours per day)
	E (g/m <sup>2</sup> /s) for Activity 1 & 3 (TCBR1E)	6900	Area(m <sup>2</sup> ) = 51.54*32.23+55.76*33.68+47.94*34.51+48.08*35.49
	E (g/m <sup>2</sup> /s) for Activity 2 (TCBR1W)	11296	Area(m <sup>2</sup> ) = 59.12*46.97+72.26*45.37+50.21*45.66+63.87*46.16
	E (g/m <sup>2</sup> /s) for Activity 4 (TCBR2)	9160	Area(m <sup>2</sup> ) = 58.87*36.75+62.09*37.55+59.03*39.69+58.87*39.45
	E (g/m <sup>2</sup> /s) for Activity 5 (TPCWAE)	7695	Area(m <sup>2</sup> ) = 61.18*27.6+52.56*33.42+54.27*38.17+53.07*41.05
	E (g/m <sup>2</sup> /s) for Activity 6 & 7 (WCR1)	8232	Area(m <sup>2</sup> ) = 65.64*32.91+65.14*29.11+56.53*39.02+52.53*37.5
	E (g/m <sup>2</sup> /s) for Activity 8 (NEW FERRY PIERS)	4255	Area(m <sup>2</sup> ) = 57.11*19.57+50.78*18.58+18.19*9.94+28.22*71.35
	E (g/m <sup>2</sup> /s) for Activity 9 (HKOEC1)	5539	Area(m <sup>2</sup> ) = 79.95*32.81+79.43*36.71
	E (g/m <sup>2</sup> /s) for Activity 10 (HKCEC2E) & 11 (GROSS HARBOUR WATERMANS)	13934	Area(m <sup>2</sup> ) = 15.97*16.59+30.79*35.04+46.79*34.80+58.47*53.76+75.84*46.57+9
	E (g/m <sup>2</sup> /s) for Activity 12 (NPR1)	8405	Area(m <sup>2</sup> ) = 6.98*44.20
	E (g/m <sup>2</sup> /s) for Activity 13 (NPR2E)	18457	Area(m <sup>2</sup> ) = 68.85*35.33+60.8*37.5+97.35*37.93
	E (g/m <sup>2</sup> /s) for Activity 14 (NPR2W)	4656	Area(m <sup>2</sup> ) = 96.31*83.82+74.55*21.8+74.46*84.42+81.56*30.32
	Line sources emissions with different width:		
	E (g/m/s) for Activity 15 & 16 (CRIII - CWB)	14	width (m) calculated
	E (g/m/s) for Activity 15 & 16 (CRIII - CWB)	84	length (m) calculated
	E (g/m/s) for Activity 15 & 16 (CRIII - CWB)	18	width (m) calculated
	E (g/m/s) for Activity 15 & 16 (CRIII - CWB)	150	length (m) calculated
	E (g/m/s) for Activity 15 & 16 (CRIII - CWB)	5	width (m) calculated
	E (g/m/s) for Activity 15 & 16 (CRIII - CWB)	59	length (m) calculated
	E (g/m/s) for Activity 15 & 16 (CRIII - CWB)	10	width (m) calculated
	E (g/m/s) for Activity 15 & 16 (CRIII - CWB)	96	length (m) calculated
	E (g/m/s) for Activity 15 & 16 (CRIII - CWB)	18	width (m) calculated
	E (g/m/s) for Activity 15 & 16 (CRIII - CWB)	330	length (m) calculated
	With dust mitigation:-		
	% of dust suppression	75	for watering four times a day
	Area source emissions:		
	E (g/m <sup>2</sup> /s)	3.113426E-05	calculated
	E (g/m <sup>2</sup> /s) for Activity 1 & 3 (TCBR1E)	6900	Area(m <sup>2</sup> ) = 51.54*32.23+55.76*33.68+47.94*34.51+48.08*35.49
	E (g/m <sup>2</sup> /s) for Activity 2 (TCBR1W)	11296	Area(m <sup>2</sup> ) = 59.12*46.97+72.26*45.37+50.21*45.66+63.87*46.16
	E (g/m <sup>2</sup> /s) for Activity 4 (TCBR2)	9160	Area(m <sup>2</sup> ) = 58.87*36.75+62.09*37.55+59.03*39.69+58.87*39.45
	E (g/m <sup>2</sup> /s) for Activity 5 (TPCWAE)	7695	Area(m <sup>2</sup> ) = 61.18*27.6+52.56*33.42+54.27*38.17+53.07*41.05
	E (g/m <sup>2</sup> /s) for Activity 6 & 7 (WCR1)	8232	Area(m <sup>2</sup> ) = 65.64*32.91+65.14*29.11+56.53*39.02+52.53*37.5
	E (g/m <sup>2</sup> /s) for Activity 8 (NEW FERRY PIERS)	4255	Area(m <sup>2</sup> ) = 57.11*19.57+50.78*18.58+18.19*9.94+28.22*71.35

E (g/m2/s) for Activity 9 (HKCEC1)	Area (m <sup>2</sup> )	5539	3.113426E-05	Area(m2) = 79.95*32.81+79.43*36.71
E (g/m2/s) for Activity 10 (HKCEC2E) & 11 (CROSS HARBOUR WATERMANS)	Area (m <sup>2</sup> )	13934	3.113426E-05	Area (m <sup>2</sup> ) = 15.97*16.59+30.79*35.04+46.79*34.80+58.47*53.76+75.84*46.57+9
E (g/m2/s) for Activity 12 (NPR1)	Area (m <sup>2</sup> )	8405	3.113426E-05	6.98*44.20
E (g/m2/s) for Activity 13 (NPR2E)	Area (m <sup>2</sup> )	18457	3.113426E-05	Area(m2) = 68.85*35.33+60.8*37.5+97.35*37.93
E (g/m2/s) for Activity 14 (NPR2W)	Area (m <sup>2</sup> )	4656	3.113426E-05	Area(m <sup>2</sup> ) = 96.31*83.82+74.55*21.8+74.46*84.42+81.56*30.32
				Area (m <sup>2</sup> ) = 58.44*38.10+62.65*38.77
Line sources emissions with different width:				
E (g/m/s) for Activity 15 & 16 (CRIII - CWB)	width (m)	14	4.358796E-04	calculated
	length (m)	84		
E (g/m/s) for Activity 15 & 16 (CRIII - CWB)	width (m)	18	5.604167E-04	calculated
	length (m)	150		
E (g/m/s) for Activity 15 & 16 (CRIII - CWB)	width (m)	5	1.556713E-04	calculated
	length (m)	59		
E (g/m/s) for Activity 15 & 16 (CRIII - CWB)	width (m)	10	3.113426E-04	calculated
	length (m)	96		
E (g/m/s) for Activity 15 & 16 (CRIII - CWB)	width (m)	18	5.604167E-04	calculated
	length (m)	330		
<b>2 Wind erosion of exposed areas</b>				
TSP emission factor (Mg/hectare/yr)			0.85	from AP-42, 5th ed., Table 11.9.4
Percentage area actively operating (%)			50	
Assuming no dust mitigation:-				
Area source emissions:				
E (g/m2/s)			1.347666E-06	calculated
E (g/m2/s) for Activity 1 & 3 (TCBR1E)	Area (m <sup>2</sup> )	6900	1.347666E-06	Area(m <sup>2</sup> ) = 51.54*32.23+55.76*33.68+47.94*34.51+48.08*35.49
E (g/m2/s) for Activity 2 (TCBR1W)	Area (m <sup>2</sup> )	11296	1.347666E-06	Area(m <sup>2</sup> ) = 59.12*46.97+72.26*45.37+50.21*45.66+63.87*46.16
E (g/m2/s) for Activity 4 (TCBR2)	Area (m <sup>2</sup> )	9160	1.347666E-06	Area(m <sup>2</sup> ) = 58.87*36.75+62.09*37.55+59.03*39.69+58.87*39.45
E (g/m2/s) for Activity 5 (TPCWAE)	Area (m <sup>2</sup> )	7695	1.347666E-06	Area(m <sup>2</sup> ) = 61.18*27.6+52.56*33.42+54.27*38.17+53.07*41.05
E (g/m2/s) for Activity 6 & 7 (WCR1)	Area (m <sup>2</sup> )	8232	1.347666E-06	Area(m <sup>2</sup> ) = 65.64*32.91+65.14*29.11+56.53*39.02+52.53*37.5
E (g/m2/s) for Activity 8 (NEW FERRY PIERS)	Area (m <sup>2</sup> )	4255	1.347666E-06	Area (m <sup>2</sup> ) = 57.11*19.57+50.78*18.58+18.19*9.94+28.22*7.35
E (g/m2/s) for Activity 9 (HKCEC1)	Area (m <sup>2</sup> )	5539	1.347666E-06	Area(m2) = 79.95*32.81+79.43*36.71
E (g/m2/s) for Activity 10 (HKCEC2E) & 11 (CROSS HARBOUR WATERMANS)	Area (m <sup>2</sup> )	13934	1.347666E-06	Area (m <sup>2</sup> ) = 15.97*16.59+30.79*35.04+46.79*34.80+58.47*53.76+75.84*46.57+9
E (g/m2/s) for Activity 12 (NPR1)	Area (m <sup>2</sup> )	8405	1.347666E-06	Area(m2) = 68.85*35.33+60.8*37.5+97.35*37.93
E (g/m2/s) for Activity 13 (NPR2E)	Area (m <sup>2</sup> )	18457	1.347666E-06	Area(m <sup>2</sup> ) = 96.31*83.82+74.55*21.8+74.46*84.42+81.56*30.32
E (g/m2/s) for Activity 14 (NPR2W)	Area (m <sup>2</sup> )	4656	1.347666E-06	Area (m <sup>2</sup> ) = 58.44*38.10+62.65*38.77
Line sources emissions with different width:				
E (g/m/s) for Activity 15 & 16 (CRIII - CWB)	width (m)	14	1.886733E-05	calculated
	length (m)	84		
E (g/m/s) for Activity 15 & 16 (CRIII - CWB)	width (m)	18	2.425799E-05	calculated
	length (m)	150		
E (g/m/s) for Activity 15 & 16 (CRIII - CWB)	width (m)	5	6.738331E-06	calculated

E (g/m/s) for Activity 15 &16 (CRIII - CWB)									
	length (m)	59							
	width (m)	10				1.347666E-05	calculated		
	length (m)	96							
E (g/m/s) for Activity 15 &16 (CRIII - CWB)	width (m)	18				2.425799E-05	calculated		
	length (m)	330							

Appendix 3.1 Calculation of Dust Emission			
Scenario 2			
Description of Dust Emission Source		TSP	Remarks
<b>1 Heavy construction activities</b>			
TSP emission factor (Mg/hectare/month of activity)		2.69	from AP-42, 5th ed., S13.2.3.3
Percentage area actively operating (%)		50	
Assuming no dust mitigation:-			
Area source emissions:			
E (g/m <sup>2</sup> /s)		1.245370E-04	calculated (based on 30 working days and 10 hours per day)
E (g/m <sup>2</sup> /s) for Activity 1 (TCBR1E)	Area (m <sup>2</sup> )	6900	1.245370E-04 Area(m <sup>2</sup> ) = 51.54*32.23+55.76*33.68+47.94*34.51+48.08*35.49
E (g/m <sup>2</sup> /s) for Activity 2 (TCBR1W)	Area (m <sup>2</sup> )	11296	1.245370E-04 Area(m <sup>2</sup> ) = 59.12*46.97+72.26*45.37+50.21*45.66+63.87*46.16
E (g/m <sup>2</sup> /s) for Activity 3 (TCBR2)	Area (m <sup>2</sup> )	9160	1.245370E-04 Area(m <sup>2</sup> ) = 58.87*36.75+62.09*37.55+59.03*39.69+58.87*39.45
E (g/m <sup>2</sup> /s) for Activity 4 (TPCWAE)	Area (m <sup>2</sup> )	7695	1.245370E-04 Area(m <sup>2</sup> ) = 61.18*27.6+52.56*33.42+54.27*38.17+53.07*41.05
E (g/m <sup>2</sup> /s) for Activity 5, 6 & 7 (WCR1)	Area (m <sup>2</sup> )	8232	1.245370E-04 Area(m <sup>2</sup> ) = 65.64*32.91+65.14*29.11+56.53*39.02+52.53*37.5
E (g/m <sup>2</sup> /s) for Activity 8 (HKCEC1)	Area (m <sup>2</sup> )	5539	1.245370E-04 Area(m <sup>2</sup> ) = 79.95*32.81+79.43*36.71
E (g/m <sup>2</sup> /s) for Activity 9 (MTR TUNNEL CROSSING)	Area (m <sup>2</sup> )	6861	1.245370E-04 Area(m <sup>2</sup> ) = 50.63*47.01+49.76*46.2+49.43*44.15
E (g/m <sup>2</sup> /s) for Activity 10 (NPR1)	Area (m <sup>2</sup> )	8405	1.245370E-04 Area(m <sup>2</sup> ) = 68.85*35.33+60.8*37.5+97.35*37.93
E (g/m <sup>2</sup> /s) for Activity 11 (NPR2E)	Area (m <sup>2</sup> )	19704	Area(m <sup>2</sup> ) = 84.48*12.9+48.29*39.05+47.64*39.22+48.98*45.03+48.17*46.04+74.5 5*21.8+37.51*39.32+37.46*39.23+37.46*39.23+37.28*45.54+37.25*45.54+81.56*30 .32
Line sources emissions with different width:			
E (g/m/s) for Activity 12, 13 & 14 (CRIII - CWB)	width (m)	18	2.241667E-03 calculated
	length (m)	150	
E (g/m/s) for Activity 12, 13 & 14 (CRIII - CWB)	width (m)	5	6.226852E-04 calculated
	length (m)	59	
E (g/m/s) for Activity 12, 13 & 14 (CRIII - CWB)	width (m)	10	1.245370E-03 calculated
	length (m)	96	
E (g/m/s) for Activity 12, 13 & 14 (CRIII - CWB)	width (m)	18	2.241667E-03 calculated
	length (m)	330	
With dust mitigation:-			
% of dust suppression			75 for watering four times a day
Area source emissions:			
E (g/m <sup>2</sup> /s)			3.113426E-05 calculated
E (g/m <sup>2</sup> /s) for Activity 1 (TCBR1E)	Area (m <sup>2</sup> )	6900	3.113426E-05 Area(m <sup>2</sup> ) = 51.54*32.23+55.76*33.68+47.94*34.51+48.08*35.49
E (g/m <sup>2</sup> /s) for Activity 2 (TCBR1W)	Area (m <sup>2</sup> )	11296	3.113426E-05 Area(m <sup>2</sup> ) = 59.12*46.97+72.26*45.37+50.21*45.66+63.87*46.16
E (g/m <sup>2</sup> /s) for Activity 3 (TCBR2)	Area (m <sup>2</sup> )	9160	3.113426E-05 Area(m <sup>2</sup> ) = 58.87*36.75+62.09*37.55+59.03*39.69+58.87*39.45
E (g/m <sup>2</sup> /s) for Activity 4 (TPCWAE)	Area (m <sup>2</sup> )	7695	3.113426E-05 Area(m <sup>2</sup> ) = 61.18*27.6+52.56*33.42+54.27*38.17+53.07*41.05
E (g/m <sup>2</sup> /s) for Activity 5, 6 & 7 (WCR1)	Area (m <sup>2</sup> )	8232	3.113426E-05 Area(m <sup>2</sup> ) = 65.64*32.91+65.14*29.11+56.53*39.02+52.53*37.5
E (g/m <sup>2</sup> /s) for Activity 8 (HKCEC1)	Area (m <sup>2</sup> )	5539	3.113426E-05 Area(m <sup>2</sup> ) = 79.95*32.81+79.43*36.71
E (g/m <sup>2</sup> /s) for Activity 9 (MTR TUNNEL CROSSING)	Area (m <sup>2</sup> )	6861	3.113426E-05 Area(m <sup>2</sup> ) = 50.63*47.01+49.76*46.2+49.43*44.15
E (g/m <sup>2</sup> /s) for Activity 10 (NPR1)	Area (m <sup>2</sup> )	8405	3.113426E-05 Area(m <sup>2</sup> ) = 68.85*35.33+60.8*37.5+97.35*37.93

E (g/m2/s) for Activity 11 (NPR2E)	Area (m <sup>2</sup> )	19704	3.113426E-05	Area(m <sup>2</sup> ) = 84.48*12.9+48.29*39.05+47.64*39.22+48.98*45.03+48.17*46.04+74.5 5*21.8+37.51*39.32+37.46*39.23+37.28*45.54+37.25*45.54+81.56*30 .32
Line sources emissions with different width:				
E (g/m/s) for Activity 12, 13 & 14 (CRIII - CWB)	width (m)	18	5.604167E-04	calculated
	length (m)	150		
E (g/m/s) for Activity 12, 13 & 14 (CRIII - CWB)	width (m)	5	1.556713E-04	calculated
	length (m)	59		
E (g/m/s) for Activity 12, 13 & 14 (CRIII - CWB)	width (m)	10	3.113426E-04	calculated
	length (m)	96		
E (g/m/s) for Activity 12, 13 & 14 (CRIII - CWB)	width (m)	18	5.604167E-04	calculated
	length (m)	330		
<b>2 Wind erosion of exposed areas</b>				
TSP emission factor (Mg/hectare/yr)			0.85	from AP-42, 5th ed., Table 11.9.4
Percentage area actively operating (%)			50	
Assuming no dust mitigation:-				
Area source emissions:				
E (g/m2/s)			1.347666E-06	calculated
E (g/m2/s) for Activity 1 (TCBR1E)	Area (m <sup>2</sup> )	6900	1.347666E-06	Area(m <sup>2</sup> ) = 51.54*32.23+55.76*33.68+47.94*34.51+48.08*35.49
E (g/m2/s) for Activity 2 (TCBR1W)	Area (m <sup>2</sup> )	11296	1.347666E-06	Area(m <sup>2</sup> ) = 59.12*46.97+72.26*45.37+50.21*45.66+63.87*46.16
E (g/m2/s) for Activity 3 (TCBR2)	Area (m <sup>2</sup> )	9160	1.347666E-06	Area(m <sup>2</sup> ) = 58.87*36.75+62.09*37.55+59.03*39.69+58.87*39.45
E (g/m2/s) for Activity 4 (TPCWAE)	Area (m <sup>2</sup> )	7695	1.347666E-06	Area(m <sup>2</sup> ) = 61.18*27.6+52.56*33.42+54.27*38.17+53.07*41.05
E (g/m2/s) for Activity 5, 6 & 7 (WCR1)	Area (m <sup>2</sup> )	8232	1.347666E-06	Area(m <sup>2</sup> ) = 65.64*32.91+65.14*29.11+56.53*39.02+52.53*37.5
E (g/m2/s) for Activity 8 (HKCEC1)	Area (m <sup>2</sup> )	5539	1.347666E-06	Area(m <sup>2</sup> ) = 79.95*32.81+79.43*36.71
E (g/m2/s) for Activity 9 (MTR TUNNEL CROSSING)	Area (m <sup>2</sup> )	6861	1.347666E-06	Area(m <sup>2</sup> ) = 50.63*47.01+49.76*46.2+49.43*44.15
E (g/m2/s) for Activity 10 (NPR1)	Area (m <sup>2</sup> )	8405	1.347666E-06	Area(m <sup>2</sup> ) = 68.85*35.33+60.8*37.5+97.35*37.93
				Area(m <sup>2</sup> ) = 84.48*12.9+48.29*39.05+47.64*39.22+48.98*45.03+48.17*46.04+74.5 5*21.8+37.51*39.32+37.46*39.23+37.28*45.54+37.25*45.54+81.56*30 .32
E (g/m2/s) for Activity 11 (NPR2E)	Area (m <sup>2</sup> )	19704	1.347666E-06	
Line sources emissions with different width:				
E (g/m/s) for Activity 12, 13 & 14 (CRIII - CWB)	width (m)	18	2.425799E-05	calculated
	length (m)	150		
E (g/m/s) for Activity 12, 13 & 14 (CRIII - CWB)	width (m)	5	6.738331E-06	calculated
	length (m)	59		
E (g/m/s) for Activity 12, 13 & 14 (CRIII - CWB)	width (m)	10	1.347666E-05	calculated
	length (m)	96		
E (g/m/s) for Activity 12, 13 & 14 (CRIII - CWB)	width (m)	18	2.425799E-05	calculated
	length (m)	330		

Appendix 3.1 Calculation of Dust Emission			
Scenario 3	Description of Dust Emission Source	TSP	Remarks
1	Heavy construction activities		
	TSP emission factor (Mg/hectare/month of activity)	2.69	from AP-42, 5th ed., S13.2.3.3
	Percentage area actively operating (%)	50	
	Assuming no dust mitigation:-		
	Area source emissions:		
	E (g/m <sup>2</sup> /s)	1.245370E-04	calculated (based on 30 working days and 10 hours per day)
	E (g/m <sup>2</sup> /s) for Activity 1 (TCBR1W)	11296	Area (m <sup>2</sup> ) = 59.12*46.97+72.26*45.37+50.21*45.66+63.87*46.16
	E (g/m <sup>2</sup> /s) for Activity 2 (TCBR2)	9160	Area (m <sup>2</sup> ) = 58.87*36.75+62.09*37.55+59.03*39.69+58.87*39.45
	E (g/m <sup>2</sup> /s) for Activity 3 (TCBR3)	10500	Area (m <sup>2</sup> ) = 59.65*42.08+64.62*42.16+60.75*42.47+61.02*43.99
	E (g/m <sup>2</sup> /s) for Activity 4 (TPCWAE)	7695	Area (m <sup>2</sup> ) = 61.18*27.6+52.56*33.42+54.27*38.17+53.07*41.05
	E (g/m <sup>2</sup> /s) for Activity 5 (WCR2)	9327	Area (m <sup>2</sup> ) = 61.68*39.39+69.53*33.75+50.06*42.64+49.34*35.08+41.38*10.02+20.28*13.33
	E (g/m <sup>2</sup> /s) for Activity 6 (HKCEC2E)	13934	Area (m <sup>2</sup> ) = 15.97*16.59+30.79*35.04+46.79*34.80+58.47*53.76+75.84*46.57+96.98*44.20
	E (g/m <sup>2</sup> /s) for Activity 7 (HKCEC2W)	22215	Area (m <sup>2</sup> ) = 74.85*42.49+45.33*46.06+49.19*43.69+23.11*25.13+49.57*30.98+82.26*45.09+57.03*46.16+51.35*43.48+48.41*45.37+43.85*43.58
	E (g/m <sup>2</sup> /s) for Activity 8, 9 & 11 (HKCEC3Ea & HKCEC3Eb)	5972	Area (m <sup>2</sup> ) = 33.28*43.45+59.87*75.59
	E (g/m <sup>2</sup> /s) for Activity 10 (HKCEC3W)	14796	Area (m <sup>2</sup> ) = 102.87*37.85+105.31*36.86+100.59*34.22+101.54*35.25
	E (g/m <sup>2</sup> /s) for Activity 12 (NPR2W)	4656	Area (m <sup>2</sup> ) = 58.44*38.10+62.65*38.77
	With dust mitigation:-		
	% of dust suppression	75	for watering four times a day
	Area source emissions:		
	E (g/m <sup>2</sup> /s)	3.113426E-05	calculated
	E (g/m <sup>2</sup> /s) for Activity 1 (TCBR1W)	11296	Area (m <sup>2</sup> ) = 59.12*46.97+72.26*45.37+50.21*45.66+63.87*46.16
	E (g/m <sup>2</sup> /s) for Activity 2 (TCBR2)	9160	Area (m <sup>2</sup> ) = 58.87*36.75+62.09*37.55+59.03*39.69+58.87*39.45
	E (g/m <sup>2</sup> /s) for Activity 3 (TCBR3)	10500	Area (m <sup>2</sup> ) = 59.65*42.08+64.62*42.16+60.75*42.47+61.02*43.99
	E (g/m <sup>2</sup> /s) for Activity 4 (TPCWAE)	7695	Area (m <sup>2</sup> ) = 61.18*27.6+52.56*33.42+54.27*38.17+53.07*41.05
	E (g/m <sup>2</sup> /s) for Activity 5 (WCR2)	9327	Area (m <sup>2</sup> ) = 61.68*39.39+69.53*33.75+50.06*42.64+49.34*35.08+41.38*10.02+20.28*13.33
	E (g/m <sup>2</sup> /s) for Activity 6 (HKCEC2E)	13934	Area (m <sup>2</sup> ) = 15.97*16.59+30.79*35.04+46.79*34.80+58.47*53.76+75.84*46.57+96.98*44.20
	E (g/m <sup>2</sup> /s) for Activity 7 (HKCEC2W)	22215	Area (m <sup>2</sup> ) = 74.85*42.49+45.33*46.06+49.19*43.69+23.11*25.13+49.57*30.98+82.26*45.09+57.03*46.16+51.35*43.48+48.41*45.37+43.85*43.58
	E (g/m <sup>2</sup> /s) for Activity 8, 9 & 11 (HKCEC3Ea & HKCEC3Eb)	5972	Area (m <sup>2</sup> ) = 33.2776*43.4504+59.8738*75.5857
	E (g/m <sup>2</sup> /s) for Activity 10 (HKCEC3W)	14796	Area (m <sup>2</sup> ) = 102.87*37.85+105.31*36.86+100.59*34.22+101.54*35.25

E (g/m2/s) for Activity 12 (NPR2W)	Area (m <sup>2</sup> )	4656	3.113426E-05	Area (m <sup>2</sup> ) = 58.44*38.10+62.65*38.77
<b>2 Wind erosion of exposed areas</b>				
TSP emission factor (Mg/hectare/yr)			0.85	from AP-42, 5th ed., Table 11.9.4
Percentage area actively operating (%)			50	
Assuming no dust mitigation:-				
Area source emissions:				
E (g/m2/s)			1.347666E-06	calculated
E (g/m2/s) for Activity 1 (TCBR1W)	Area (m <sup>2</sup> )	11296	1.347666E-06	Area(m <sup>2</sup> ) = 59.12*46.97+72.26*45.37+50.21*45.66+63.87*46.16
E (g/m2/s) for Activity 2 (TCBR2)	Area (m <sup>2</sup> )	9160	1.347666E-06	Area(m <sup>2</sup> ) = 58.87*36.75+62.09*37.55+59.03*39.69+58.87*39.45
E (g/m2/s) for Activity 3 (TCBR3)	Area (m <sup>2</sup> )	10500	1.347666E-06	Area (m <sup>2</sup> ) = 59.65*42.08+64.62*42.16+60.75*42.47+61.02*43.99
E (g/m2/s) for Activity 4 (TPCWAE)	Area (m <sup>2</sup> )	7695	1.347666E-06	Area(m <sup>2</sup> ) = 61.18*27.6+52.56*33.42+54.27*38.17+53.07*41.05
E (g/m2/s) for Activity 5 (WCR2)	Area (m <sup>2</sup> )	9327	1.347666E-06	Area (m <sup>2</sup> ) = 61.68*39.39+69.53*33.75+50.06*42.64+49.34*35.08+41.38*10.02+20.28*13.33
E (g/m2/s) for Activity 6 (HKCEC2E)	Area (m <sup>2</sup> )	13934	1.347666E-06	Area (m <sup>2</sup> ) = 15.97*16.59+30.79*35.04+46.79*34.80+58.47*53.76+75.84*46.57+96.98*44.20
E (g/m2/s) for Activity 7 (HKCEC2W)	Area (m <sup>2</sup> )	22215	1.347666E-06	Area (m <sup>2</sup> ) = 74.85*42.49+45.33*46.06+49.19*43.69+23.11*25.13+49.57*30.98+82.26*45.09+57.03*46.16+51.35*43.48+48.41*45.37+43.85*43.58
E (g/m2/s) for Activity 8, 9 & 11 (HKOEC3Ea & HKCEC3Eb)	Area (m <sup>2</sup> )	5972	1.347666E-06	Area (m <sup>2</sup> ) = 33.2776*43.4504+59.8738*75.5857
E (g/m2/s) for Activity 10 (HKCEC3W)	Area (m <sup>2</sup> )	14796	1.347666E-06	Area (m <sup>2</sup> ) = 102.87*37.85+105.31*36.86+100.59*34.22+101.54*35.25
E (g/m2/s) for Activity 12 (NPR2W)	Area (m <sup>2</sup> )	4656	1.347666E-06	Area (m <sup>2</sup> ) = 58.44*38.10+62.65*38.77



Appendix 3.1 Calculation of Dust Emission			
Scenario 4			
Description of Dust Emission Source		TSP	Remarks
<b>1 Heavy construction activities</b>			
TSP emission factor (Mg/hectare/month of activity)		2.69	from AP-42, 5th ed., S13.2.3.3
Percentage area actively operating (%)		50	
Assuming no dust mitigation:-			
Area source emissions:			
E (g/m <sup>2</sup> /s)		1.245370E-04	calculated (based on 30 working days and 10 hours per day)
E (g/m <sup>2</sup> /s) for Activity 1 (TCBR3)	Area (m <sup>2</sup> )	10500	Area (m <sup>2</sup> ) =59.65*42.08+64.62*42.16+60.75*42.47+61.02*43.99
			Area (m <sup>2</sup> ) =76.69*43.85+80.07*41.54+76.37*44.84+80.30*40.48+77.76*46.36+8
E (g/m <sup>2</sup> /s) for Activity 2 (TCBR4)	Area (m <sup>2</sup> )	25381	1.83*42.29+91.18*24.63+83.70*23.38+35.65*20.99
E (g/m <sup>2</sup> /s) for Activity 3 (TPCWA/W)	Area (m <sup>2</sup> )	8152	Area (m <sup>2</sup> ) =43.12*46.13+43.74*47.80+42.03*48.33+41.92*48.67
			Area (m <sup>2</sup> ) =61.68*39.39+69.53*33.75+50.06*42.64+49.34*35.08+41.38*10.02+2
E (g/m <sup>2</sup> /s) for Activity 4 (WCR2)	Area (m <sup>2</sup> )	9327	0.28*13.33
E (g/m <sup>2</sup> /s) for Activity 5 (WCR3)	Area (m <sup>2</sup> )	14208	Area (m <sup>2</sup> ) =55.18*32.39+57.05*63.39+45.87*12.25+79.74*34.31+77.24*71.29
E (g/m <sup>2</sup> /s) for Activity 6 & 7 (WCR4)	Area (m <sup>2</sup> )	4882	Area (m <sup>2</sup> ) =25.05*15.31+45.68*33.76+61.74*47.91
			Area (m <sup>2</sup> ) =74.85*42.49+45.33*46.06+49.19*43.69+23.11*25.13+49.57*30.98+8
E (g/m <sup>2</sup> /s) for Activity 8 (HKCEC2W)	Area (m <sup>2</sup> )	22215	2.26*45.09+57.03*46.16+51.35*43.48+48.41*45.37+43.85*43.58
E (g/m <sup>2</sup> /s) for Activity 9 (HKCEC3W)	Area (m <sup>2</sup> )	14796	Area (m <sup>2</sup> ) =102.87*37.85+105.31*36.86+100.59*34.22+101.54*35.25
E (g/m <sup>2</sup> /s) for Activity 10 (HKCEC3Ea & HKCEC3Eb)	Area (m <sup>2</sup> )	5972	Area (m <sup>2</sup> ) =33.28*43.45+59.87*75.59
			Area (m <sup>2</sup> ) =68.84*57.21+57.77*60.06+111.13*60.77+47.87*47.74+36.46*50.46+
E (g/m <sup>2</sup> /s) for Activity 11 (IEC CONNECTION WORK)	Area (m <sup>2</sup> )	31095	61.39*33.01+62.72*26.39+60.29*19.75+93.02*19.73+160.08*38.11
Line sources emissions with different width:			
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	width (m)	8	calculated
	length (m)	95	
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	width (m)	10	calculated
	length (m)	94	
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	width (m)	13	calculated
	length (m)	146	
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	width (m)	10	calculated
	length (m)	49	
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	width (m)	4	calculated
	length (m)	67	
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	width (m)	2	calculated
	length (m)	70	
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	width (m)	6	calculated
	length (m)	22	
With dust mitigation:-			
% of dust suppression			
			75 for watering four times a day

Area source emissions:			
E (g/m2/s)		3.113426E-05	calculated
E (g/m2/s) for Activity 1 (TCBR3)	Area (m <sup>2</sup> )	10500	Area (m <sup>2</sup> ) =59.65*42.05+64.62*42.16+60.75*42.47+61.02*43.99
E (g/m2/s) for Activity 2 (TCBR4)	Area (m <sup>2</sup> )	25381	Area (m <sup>2</sup> ) =43.12*46.13+43.74*47.80+42.03*48.33+41.92*48.67
E (g/m2/s) for Activity 3 (TPCWAW)	Area (m <sup>2</sup> )	8152	Area (m <sup>2</sup> ) =43.1207*46.1298+43.7445*47.7973+42.0326*48.3281+41.9229*48.6
E (g/m2/s) for Activity 4 (WCR2)	Area (m <sup>2</sup> )	9327	Area (m <sup>2</sup> ) =61.68*39.39+69.53*33.75+50.06*42.64+49.34*35.08+41.38*10.02+2
E (g/m2/s) for Activity 5 (WCR3)	Area (m <sup>2</sup> )	14208	Area (m <sup>2</sup> ) =55.18*32.39+57.05*63.39+45.87*12.25+79.74*34.31+77.24*71.29
E (g/m2/s) for Activity 6 & 7 (WCR4)	Area (m <sup>2</sup> )	4882	Area (m <sup>2</sup> ) =25.05*15.31+45.68*33.76+61.74*47.91
E (g/m2/s) for Activity 8 (HKCEC2W)	Area (m <sup>2</sup> )	22215	Area (m <sup>2</sup> ) =74.85*42.49+45.33*46.06+49.19*43.69+23.11*25.13+49.57*30.98+8
E (g/m2/s) for Activity 9 (HKCEC3W)	Area (m <sup>2</sup> )	14796	Area (m <sup>2</sup> ) =2.26*45.09+57.03*46.16+51.35*43.48+48.41*45.37+43.85*43.58
E (g/m2/s) for Activity 10 (HKCEC3Ea & HKCEC3Eb)	Area (m <sup>2</sup> )	5972	Area (m <sup>2</sup> ) =102.87*37.85+105.31*36.86+100.59*34.22+101.54*35.25
E (g/m2/s) for Activity 11 (IEC CONNECTION WORK)	Area (m <sup>2</sup> )	31095	Area (m <sup>2</sup> ) =83.28*43.45+59.87*75.59
<b>Line sources emissions with different width:</b>			
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	width (m)	8	calculated
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	length (m)	95	
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	width (m)	10	calculated
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	length (m)	94	
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	width (m)	13	calculated
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	length (m)	146	
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	width (m)	10	calculated
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	length (m)	49	
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	width (m)	4	calculated
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	length (m)	67	
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	width (m)	2	calculated
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	length (m)	70	
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	width (m)	6	calculated
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	length (m)	22	
<b>2 Wind erosion of exposed areas</b>			
TSP emission factor (Mg/hectare/yr)		0.85	from AP-42, 5th ed., Table 11.9.4
Percentage area actively operating (%)		50	
Assuming no dust mitigation:-			
Area source emissions:			
E (g/m2/s)		1.347666E-06	calculated
E (g/m2/s) for Activity 1 (TCBR3)	Area (m <sup>2</sup> )	10500	Area (m <sup>2</sup> ) =59.65*42.08+64.62*42.16+60.75*42.47+61.02*43.99

E (g/m2/s) for Activity 2 (TCBR4)	Area (m <sup>2</sup> )	25381	1.347666E-06	Area (m <sup>2</sup> ) =76.69*43.85+80.07*41.54+76.37*44.84+80.30*40.48+77.76*46.36+8
E (g/m2/s) for Activity 3 (TPCWAW)	Area (m <sup>2</sup> )	8152	1.347666E-06	Area (m <sup>2</sup> ) =1.83*42.29+91.18*24.63+83.70*23.38+35.65*20.99
E (g/m2/s) for Activity 4 (WCR2)	Area (m <sup>2</sup> )	9327	1.347666E-06	Area (m <sup>2</sup> ) =43.12*46.13+43.74*47.80+42.03*48.33+41.92*48.67
E (g/m2/s) for Activity 5 (WCR3)	Area (m <sup>2</sup> )	14208	1.347666E-06	Area (m <sup>2</sup> ) =61.68*39.39+69.53*33.75+50.06*42.64+49.34*35.08+41.38*10.02+2
E (g/m2/s) for Activity 6 & 7 (WCR4)	Area (m <sup>2</sup> )	4882	1.347666E-06	Area (m <sup>2</sup> ) =0.28*13.33
E (g/m2/s) for Activity 8 (HKCEC2W)	Area (m <sup>2</sup> )	22215	1.347666E-06	Area (m <sup>2</sup> ) =55.18*32.39+57.05*63.39+45.87*12.25+79.74*34.31+77.24*71.29
E (g/m2/s) for Activity 9 (HKCEC3W)	Area (m <sup>2</sup> )	14796	1.347666E-06	Area (m <sup>2</sup> ) =25.05*15.31+45.68*33.76+61.74*47.91
E (g/m2/s) for Activity 10 (HKCEC3Ea & HKCEC3Eb)	Area (m <sup>2</sup> )	5972	1.347666E-06	Area (m <sup>2</sup> ) =74.85*42.49+45.33*46.06+49.19*43.69+23.11*25.13+49.57*30.98+8
E (g/m2/s) for Activity 11 (IEC CONNECTION WORK)	Area (m <sup>2</sup> )	31095	1.347666E-06	Area (m <sup>2</sup> ) =2.26*45.09+57.03*46.16+51.35*43.48+48.41*45.37+43.85*43.58
Line sources emissions with different width:				
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	width (m)	8	1.078133E-05	calculated
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	length (m)	95		
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	width (m)	10	1.347666E-05	calculated
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	length (m)	94		
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	width (m)	13	1.751966E-05	calculated
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	length (m)	146		
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	width (m)	10	1.347666E-05	calculated
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	length (m)	49		
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	width (m)	4	5.390665E-06	calculated
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	length (m)	67		
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	width (m)	2	2.695332E-06	calculated
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	length (m)	70		
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	width (m)	6	8.085997E-06	calculated
E (g/m/s) for Activity 11 (IEC CONNECTION WORK)	length (m)	22		

Appendix 3.1 Calculation of Dust Emission			
Scenario 5			
Description of Dust Emission Source		TSP	Remarks
1	Heavy construction activities		
	TSP emission factor (Mg/hectare/month of activity)	2.69	from AP-42, 5th ed., S13.2.3.3
	Percentage area actively operating (%)	50	
	Assuming no dust mitigation:-		
	Area source emissions:		
	E (g/m2/s)	1.245370E-04	calculated (based on 30 working days and 10 hours per day)
	E (g/m2/s) for Activity 1 (TCBR3)	10500	Area (m <sup>2</sup> ) =59.65*42.08+64.62*42.16+60.75*42.47+61.02*43.99
	E (g/m2/s) for Activity 2 (TCBR4)	25381	Area (m <sup>2</sup> ) =76.69*43.85+80.07*41.54+76.37*44.84+80.30*40.48+77.76*46.36+8
	E (g/m2/s) for Activity 4 (TPCWAW)	8152	Area (m <sup>2</sup> ) =1.83*42.29+91.18*24.63+83.70*23.38+35.65*20.99
	E (g/m2/s) for Activity 5 (WCR3)	14208	Area (m <sup>2</sup> ) =43.12*46.13+43.74*47.80+42.03*48.33+41.92*48.67
	E (g/m2/s) for Activity 6 (WCR4)	4882	Area (m <sup>2</sup> ) =55.18*32.39+57.05*63.39+45.87*12.25+79.74*34.31+77.24*71.29
	E (g/m2/s) for Activity 7 & 9 (HKCEC2E)	13669	Area (m <sup>2</sup> ) =25.05*15.31+45.68*33.76+61.74*47.91
	E (g/m2/s) for Activity 8 & 10 (HKCEC2W)	22215	Area (m <sup>2</sup> ) =30.79*35.04+46.79*34.80+58.47*53.76+75.84*46.57+96.98*44.20
	E (g/m2/s) for Activity 11 (HKCEC3Ea & HKCEC3Eb)	5972	Area (m <sup>2</sup> ) =74.85*42.49+45.33*46.06+49.19*43.69+23.11*25.13+49.57*30.98+8
	E (g/m2/s) for Activity 12 (HKCEC3W)	14796	Area (m <sup>2</sup> ) =2.26*45.09+57.03*46.16+51.35*43.48+48.41*45.37+43.85*43.58
	Line sources emissions with different width:		
	E (g/m/s) for Activity 3	7	Area (m <sup>2</sup> ) =102.87*37.85+105.31*36.86+100.59*34.22+101.54*35.25
	E (g/m/s) for Activity 3	58	width (m) 7
	E (g/m/s) for Activity 3	10	length (m) 8.717593E-04 calculated
	E (g/m/s) for Activity 3	67	width (m) 10
	E (g/m/s) for Activity 3	8	length (m) 1.245370E-03 calculated
	E (g/m/s) for Activity 3	82	width (m) 8
	E (g/m/s) for Activity 3	92	length (m) 9.962963E-04 calculated
	E (g/m/s) for Activity 3	8	width (m) 8
	E (g/m/s) for Activity 3	78	length (m) 9.962963E-04 calculated
	E (g/m/s) for Activity 3	6	width (m) 8
	E (g/m/s) for Activity 3	88	length (m) 7.472222E-04 calculated
	E (g/m/s) for Activity 3	79	width (m) 6
	E (g/m/s) for Activity 3	4	length (m) 7.472222E-04 calculated
	E (g/m/s) for Activity 3	54	width (m) 4
	E (g/m/s) for Activity 3	4	length (m) 4.981481E-04 calculated
	E (g/m/s) for Activity 3	40	width (m) 4
	E (g/m/s) for Activity 3	3	length (m) 4.981481E-04 calculated
	E (g/m/s) for Activity 3	49	width (m) 3
	E (g/m/s) for Activity 3	2	length (m) 3.736111E-04 calculated
	E (g/m/s) for Activity 3		width (m) 2
	E (g/m/s) for Activity 3		length (m) 2.490741E-04 calculated

		length (m)	17		
With dust mitigation:-					
% of dust suppression					75 for watering four times a day
Area source emissions:					
E (g/m <sup>2</sup> /s)				3.113426E-05	calculated
E (g/m <sup>2</sup> /s) for Activity 1 (TCBR3)		Area (m <sup>2</sup> )	10500	3.113426E-05	Area (m <sup>2</sup> ) =59.65*42.08+64.62*42.16+60.75*42.47+61.02*43.99 Area (m <sup>2</sup> ) =76.69*43.85+80.07*41.54+76.37*44.84+80.30*40.48+77.76*46.36+8 =76.69*43.85+80.07*41.54+76.37*44.84+80.30*40.48+77.76*46.36+8 1.83*42.29+91.18*24.63+83.70*23.38+35.65*20.99
E (g/m <sup>2</sup> /s) for Activity 2 (TCBR4)		Area (m <sup>2</sup> )	25381	3.113426E-05	Area (m <sup>2</sup> ) =43.12*46.13+43.74*47.80+42.03*48.33+41.92*48.67
E (g/m <sup>2</sup> /s) for Activity 4 (TPCWAW)		Area (m <sup>2</sup> )	8152	3.113426E-05	Area (m <sup>2</sup> ) =55.18*32.39+57.05*63.39+45.87*12.25+79.74*34.31+77.24*71.29
E (g/m <sup>2</sup> /s) for Activity 5 (WCR3)		Area (m <sup>2</sup> )	14208	3.113426E-05	Area (m <sup>2</sup> ) =30.79*35.04+46.79*34.80+58.47*53.76+75.84*46.57+96.98*44.20
E (g/m <sup>2</sup> /s) for Activity 6 (WCR4)		Area (m <sup>2</sup> )	4882	3.113426E-05	Area (m <sup>2</sup> ) =74.85*42.49+45.33*46.06+49.19*43.69+23.11*25.13+49.57*30.98+8 =74.85*42.49+45.33*46.06+49.19*43.69+23.11*25.13+49.57*30.98+8 2.26*45.09+57.03*46.16+51.35*43.48+48.41*45.37+43.85*43.58
E (g/m <sup>2</sup> /s) for Activity 7 & 9 (HKCEC2E)		Area (m <sup>2</sup> )	13669	3.113426E-05	Area (m <sup>2</sup> ) =33.28*43.45+59.87*75.59
E (g/m <sup>2</sup> /s) for Activity 8 & 10 (HKCEC2W)		Area (m <sup>2</sup> )	22215	3.113426E-05	Area (m <sup>2</sup> ) =102.87*37.85+105.31*36.86+100.59*34.22+101.54*35.25
E (g/m <sup>2</sup> /s) for Activity 11 (HKCEC3Ea & HKCEC3Eb)		Area (m <sup>2</sup> )	5972	3.113426E-05	
E (g/m <sup>2</sup> /s) for Activity 12 (HKCEC3W)		Area (m <sup>2</sup> )	14796	3.113426E-05	
Line sources emissions with different width:					
E (g/m/s) for Activity 3		width (m)	7	2.179398E-04	calculated
E (g/m/s) for Activity 3		length (m)	58		
E (g/m/s) for Activity 3		width (m)	10	3.113426E-04	calculated
E (g/m/s) for Activity 3		length (m)	67		
E (g/m/s) for Activity 3		width (m)	8	2.490741E-04	calculated
E (g/m/s) for Activity 3		length (m)	82		
E (g/m/s) for Activity 3		width (m)	8	2.490741E-04	calculated
E (g/m/s) for Activity 3		length (m)	92		
E (g/m/s) for Activity 3		width (m)	8	2.490741E-04	calculated
E (g/m/s) for Activity 3		length (m)	78		
E (g/m/s) for Activity 3		width (m)	6	1.868056E-04	calculated
E (g/m/s) for Activity 3		length (m)	88		
E (g/m/s) for Activity 3		width (m)	6	1.868056E-04	calculated
E (g/m/s) for Activity 3		length (m)	79		
E (g/m/s) for Activity 3		width (m)	4	1.245370E-04	calculated
E (g/m/s) for Activity 3		length (m)	54		
E (g/m/s) for Activity 3		width (m)	4	1.245370E-04	calculated
E (g/m/s) for Activity 3		length (m)	40		
E (g/m/s) for Activity 3		width (m)	3	9.340278E-05	calculated
E (g/m/s) for Activity 3		length (m)	49		
E (g/m/s) for Activity 3		width (m)	2	6.226882E-05	calculated
E (g/m/s) for Activity 3		length (m)	17		
<b>2 Wind erosion of exposed areas</b>					
TSP emission factor (Mg/hectare/yr)				0.85	from AP-42, 5th ed., Table 11.9.4

Percentage area actively operating (%)				50	
Assuming no dust mitigation:-					
Area source emissions:					
E (g/m2/s)				1.347666E-06	calculated
Line sources emissions with different width:					
E (g/m2/s) for Activity 1 (TCBR3)	Area (m <sup>2</sup> )	10500		1.347666E-06	Area (m <sup>2</sup> ) =59.65*42.08+64.62*42.16+60.75*42.47+61.02*43.99 Area (m <sup>2</sup> ) =76.69*43.85+80.07*41.54+76.37*44.84+80.30*40.48+77.76*46.36+8 1.83*42.29+91.18*24.63+83.70*23.38+35.65*20.99
E (g/m2/s) for Activity 2 (TCBR4)	Area (m <sup>2</sup> )	25381		1.347666E-06	
E (g/m2/s) for Activity 4 (TPCWAU)	Area (m <sup>2</sup> )	8152		1.347666E-06	Area (m <sup>2</sup> ) =43.12*46.13+43.74*47.80+42.03*48.33+41.92*48.67 Area (m <sup>2</sup> )
E (g/m2/s) for Activity 5 (WCR3)	Area (m <sup>2</sup> )	14208		1.347666E-06	=55.18*32.39+57.05*63.39+45.87*12.25+79.74*34.31+77.24*71.29
E (g/m2/s) for Activity 6 (WCR4)	Area (m <sup>2</sup> )	4882		1.347666E-06	Area (m <sup>2</sup> ) =25.05*15.31+45.68*33.76+61.74*47.91 Area (m <sup>2</sup> )
E (g/m2/s) for Activity 7 & 9 (HKCEC2E)	Area (m <sup>2</sup> )	13669		1.347666E-06	=30.79*35.04+46.79*34.80+58.47*53.76+75.84*46.57+96.98*44.20 Area (m <sup>2</sup> )
E (g/m2/s) for Activity 8 & 10 (HKCEC2W)	Area (m <sup>2</sup> )	22215		1.347666E-06	=74.85*42.49+45.33*46.06+49.19*43.69+23.11*25.13+49.57*30.98+8 2.26*45.09+57.03*46.16+51.35*43.48+48.41*45.37+43.85*43.58
E (g/m2/s) for Activity 11 (HKCEC3Ea & HKCEC3Eb)	Area (m <sup>2</sup> )	5972		1.347666E-06	Area (m <sup>2</sup> ) =33.28*43.45+59.87*75.59
E (g/m2/s) for Activity 12 (HKCEC3W)	Area (m <sup>2</sup> )	14796		1.347666E-06	Area (m <sup>2</sup> ) =102.87*37.85+105.31*36.86+100.59*34.22+101.54*35.25
Line sources emissions with different width:					
E (g/m/s) for Activity 3	width (m)	7		9.433663E-06	calculated
	length (m)	58			
E (g/m/s) for Activity 3	width (m)	10		1.347666E-05	calculated
	length (m)	67			
E (g/m/s) for Activity 3	width (m)	8		1.078133E-05	calculated
	length (m)	82			
E (g/m/s) for Activity 3	width (m)	8		1.078133E-05	calculated
	length (m)	92			
E (g/m/s) for Activity 3	width (m)	8		1.078133E-05	calculated
	length (m)	78			
E (g/m/s) for Activity 3	width (m)	6		8.085997E-06	calculated
	length (m)	88			
E (g/m/s) for Activity 3	width (m)	6		8.085997E-06	calculated
	length (m)	79			
E (g/m/s) for Activity 3	width (m)	4		5.390665E-06	calculated
	length (m)	54			
E (g/m/s) for Activity 3	width (m)	4		5.390665E-06	calculated
	length (m)	40			
E (g/m/s) for Activity 3	width (m)	3		4.042998E-06	calculated
	length (m)	49			
E (g/m/s) for Activity 3	width (m)	2		2.695332E-06	calculated
	length (m)	17			

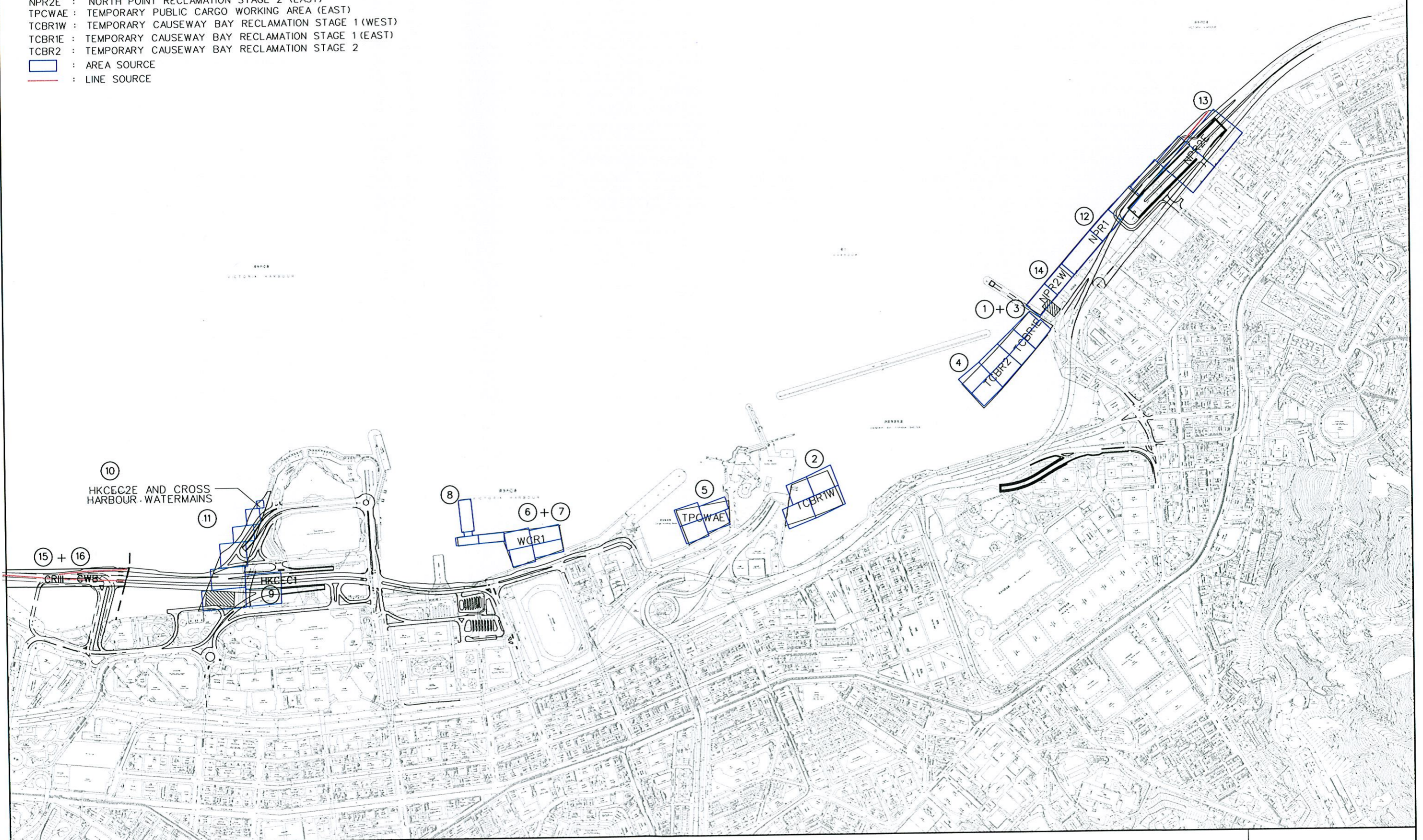
Appendix 3.1 Calculation of Dust Emission			
Scenario 6			
Description of Dust Emission Source		TSP	Remarks
1	Heavy construction activities		
	TSP emission factor (Mg/hectare/month of activity)	2.69	from AP-42, 5th ed., S13.2.3.3
	Percentage area actively operating (%)	50	
	Assuming no dust mitigation:-		
	Area source emissions:		
	E (g/m2/s)	1.245370E-04	calculated (based on 30 working days and 10 hours per day)
			Area (m <sup>2</sup> )
	E (g/m2/s) for Activity 1 (TCBR4)	25388	=76.7*43.9+80.1*41.5+76.4*44.8+80.3*40.5+77.8*46.4+81.8*42.3+91.
	E (g/m2/s) for Activity 2 (TPCWAW)	8145	2*24.6+83.7*23.4+35.7*21
	E (g/m2/s) for Activity 5 (MAINLINE TO IEC)	6711	Area (m <sup>2</sup> ) =43.1*46.1+43.7*47.8+42*48.3+41.9*48.7
			Area (m <sup>2</sup> ) =61*33+63*26+60*20+93*20
	Line sources emissions with different width:		
	E (g/m/s) for Activity 3 (REALIGNMENT HUNG HING ROAD & 4 (ROAD P2 FROM FLENIING ROAD TO MARSH ROAD)	21	2.615278E-03 calculated
		122	
	E (g/m/s) for Activity 3 (REALIGNMENT HUNG HING ROAD & 4 (ROAD P2 FROM FLENIING ROAD TO MARSH ROAD)	20	2.490741E-03 calculated
		128	
	E (g/m/s) for Activity 3 (REALIGNMENT HUNG HING ROAD & 4 (ROAD P2 FROM FLENIING ROAD TO MARSH ROAD)	18	2.241667E-03 calculated
		157	
	E (g/m/s) for Activity 3 (REALIGNMENT HUNG HING ROAD & 4 (ROAD P2 FROM FLENIING ROAD TO MARSH ROAD)	16	1.992593E-03 calculated
		117	
	With dust mitigation:-		
	% of dust suppression		75 for watering four times a day
	Area source emissions:		
	E (g/m2/s)	3.113426E-05	calculated
			Area (m <sup>2</sup> )
	E (g/m2/s) for Activity 1 (TCBR4)	25388	=76.7*43.9+80.1*41.5+76.4*44.8+80.3*40.5+77.8*46.4+81.8*42.3+91.
	E (g/m2/s) for Activity 2 (TPCWAW)	8145	2*24.6+83.7*23.4+35.7*21
	E (g/m2/s) for Activity 5 (MAINLINE TO IEC)	6711	Area (m <sup>2</sup> ) =43.1*46.1+43.7*47.8+42*48.3+41.9*48.7
			Area (m <sup>2</sup> ) =61*33+63*26+60*20+93*20
	Line sources emissions with different width:		
	E (g/m/s) for Activity 3 (REALIGNMENT HUNG HING ROAD & 4 (ROAD P2 FROM FLENIING ROAD TO MARSH ROAD)	21	6.538194E-04 calculated
		122	
	E (g/m/s) for Activity 3 (REALIGNMENT HUNG HING ROAD & 4 (ROAD P2 FROM FLENIING ROAD TO MARSH ROAD)	20	6.226852E-04 calculated

E (g/m/s) for Activity 3 (REALIGNMENT HUNG HING ROAD & 4 (ROAD P2 FROM FLEING ROAD TO MARSH ROAD)	length (m)	128		
	width (m)	18	5.604167E-04	calculated
	length (m)	157		
E (g/m/s) for Activity 3 (REALIGNMENT HUNG HING ROAD & 4 (ROAD P2 FROM FLEING ROAD TO MARSH ROAD)	width (m)	16	4.981481E-04	calculated
	length (m)	117		
<b>2 Wind erosion of exposed areas</b>				
TSP emission factor (Mg/hectare/yr)			0.85	from AP-42, 5th ed., Table 11.9.4
Percentage area actively operating (%)			50	
Assuming no dust mitigation:-				
Area source emissions:				
E (g/m2/s)			1.347666E-06	calculated
E (g/m2/s) for Activity 1 (TCBR4)	Area (m <sup>2</sup> )	25388	1.347666E-06	Area (m <sup>2</sup> ) = 76.7*43.9+80.1*41.5+76.4*44.8+80.3*40.5+77.8*46.4+81.8*42.3+91.2*24.6+83.7*23.4+35.7*21
E (g/m2/s) for Activity 2 (TPCWAW)	Area (m <sup>2</sup> )	8145	1.347666E-06	Area (m <sup>2</sup> ) = 43.1*46.1+43.7*47.8+42*48.3+41.9*48.7
E (g/m2/s) for Activity 5 (MAINLINE TO IEC)	Area (m <sup>2</sup> )	6711	1.347666E-06	Area (m <sup>2</sup> ) = 61*33+63*26+60*20+93*20
Line sources emissions with different width:				
E (g/m/s) for Activity 3 (REALIGNMENT HUNG HING ROAD & 4 (ROAD P2 FROM FLEING ROAD TO MARSH ROAD)	width (m)	21	2.830099E-05	calculated
	length (m)	122		
E (g/m/s) for Activity 3 (REALIGNMENT HUNG HING ROAD & 4 (ROAD P2 FROM FLEING ROAD TO MARSH ROAD)	width (m)	20	2.695332E-05	calculated
	length (m)	128		
E (g/m/s) for Activity 3 (REALIGNMENT HUNG HING ROAD & 4 (ROAD P2 FROM FLEING ROAD TO MARSH ROAD)	width (m)	18	2.425799E-05	calculated
	length (m)	157		
E (g/m/s) for Activity 3 (REALIGNMENT HUNG HING ROAD & 4 (ROAD P2 FROM FLEING ROAD TO MARSH ROAD)	width (m)	16	2.156266E-05	calculated
	length (m)	117		



LEGEND:

- HKCEC2E : HKCEC RECLAMATION STAGE 2 (EAST)
- WCR1 : WAN CHAI RECLAMATION STAGE 1
- NPR1 : NORTH POINT RECLAMATION STAGE 1
- NPR2W : NORTH POINT RECLAMATION STAGE 2 (WEST)
- NPR2E : NORTH POINT RECLAMATION STAGE 2 (EAST)
- TPCWAE : TEMPORARY PUBLIC CARGO WORKING AREA (EAST)
- TCBR1W : TEMPORARY CAUSEWAY BAY RECLAMATION STAGE 1 (WEST)
- TCBR1E : TEMPORARY CAUSEWAY BAY RECLAMATION STAGE 1 (EAST)
- TCBR2 : TEMPORARY CAUSEWAY BAY RECLAMATION STAGE 2
- : AREA SOURCE
- : LINE SOURCE

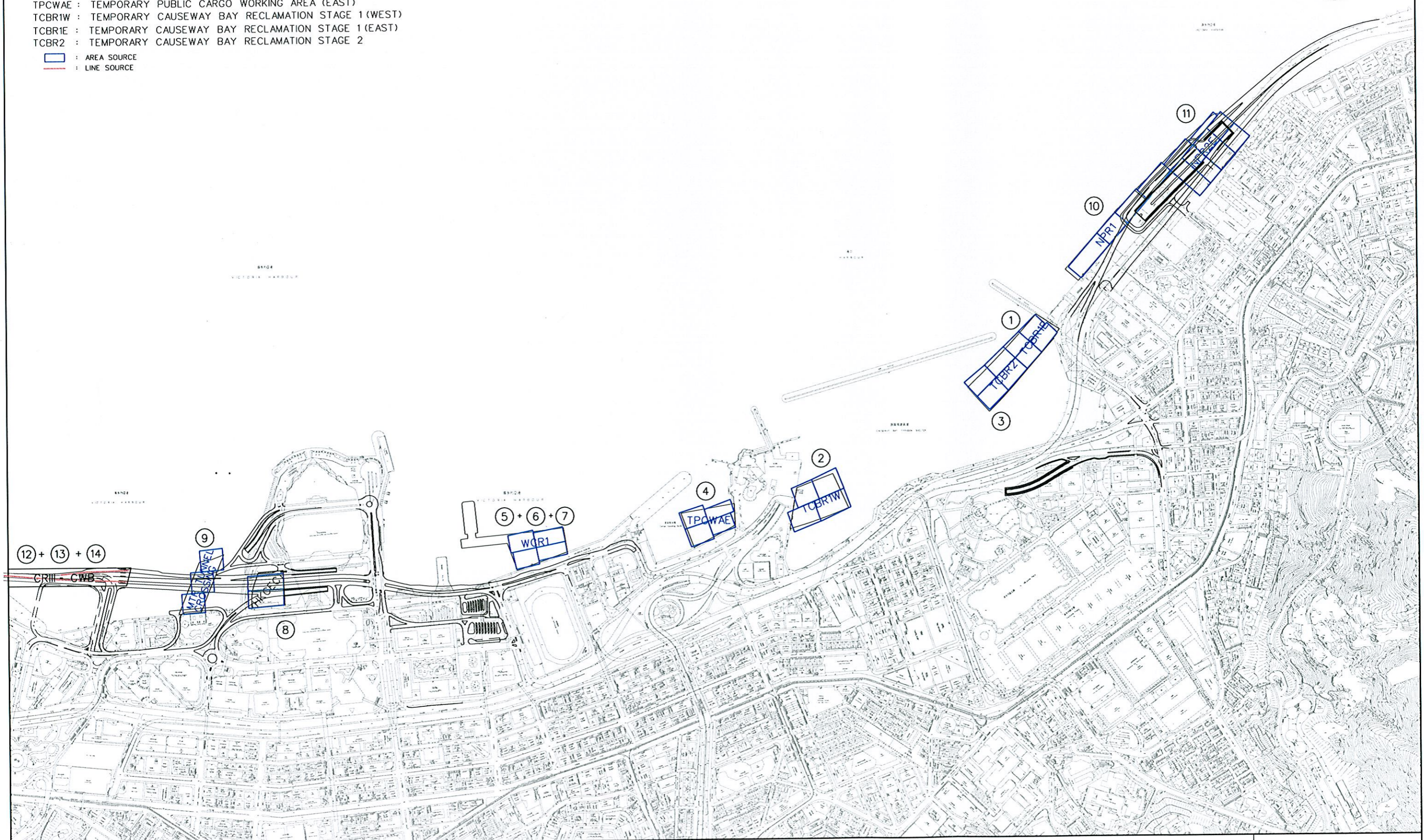


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LEGEND:

- HKCEC1 : HKCEC RECLAMATION STAGE 1
- WCR1 : WAN CHAI RECLAMATION STAGE 1
- NPR1 : NORTH POINT RECLAMATION STAGE 1
- NPR2E : NORTH POINT RECLAMATION STAGE 2 (EAST)
- TPCWAE : TEMPORARY PUBLIC CARGO WORKING AREA (EAST)
- TCBR1W : TEMPORARY CAUSEWAY BAY RECLAMATION STAGE 1 (WEST)
- TCBR1E : TEMPORARY CAUSEWAY BAY RECLAMATION STAGE 1 (EAST)
- TCBR2 : TEMPORARY CAUSEWAY BAY RECLAMATION STAGE 2

- : AREA SOURCE
- : LINE SOURCE



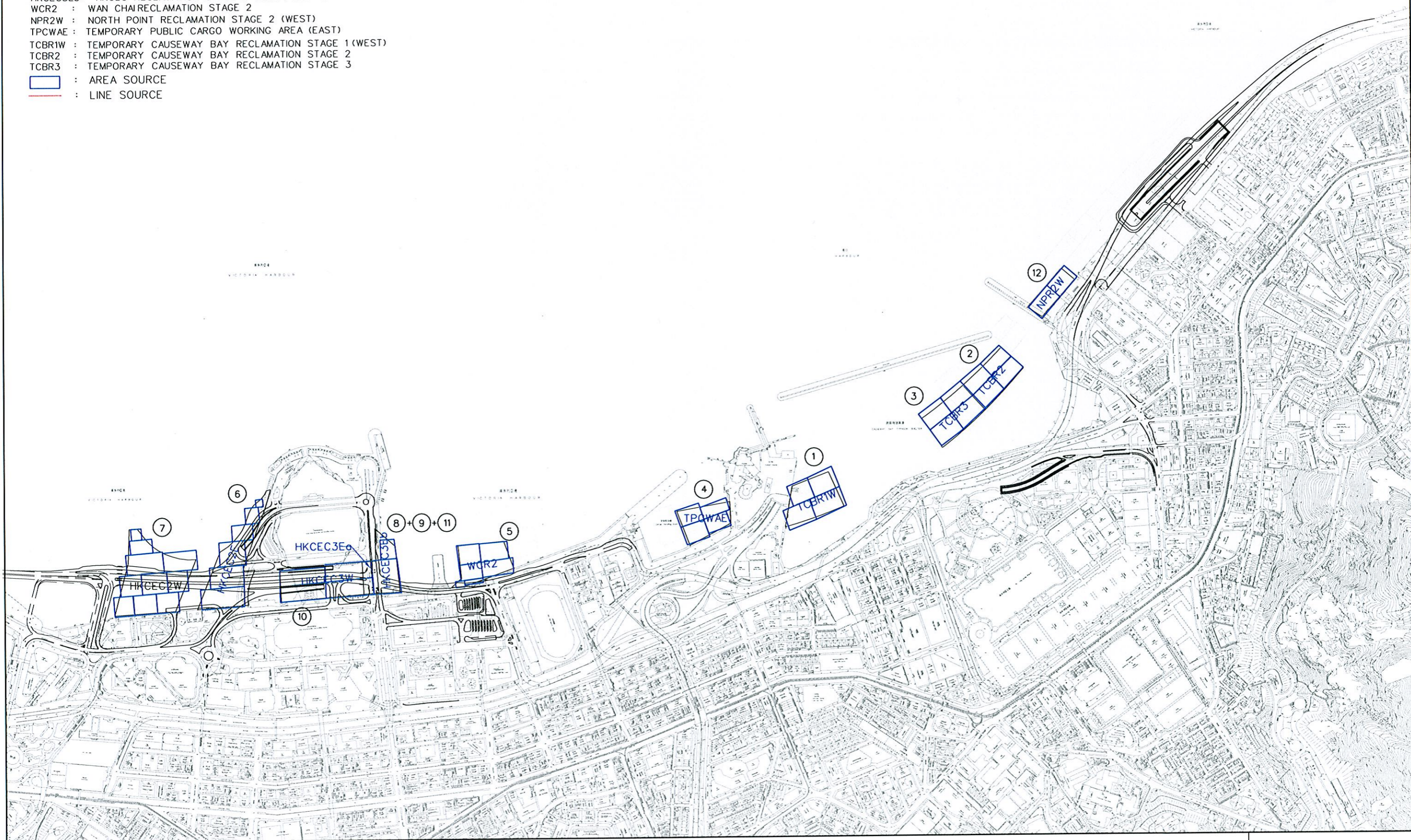
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LOCATION OF FUGITIVE DUST EMISSION SOURCES (SCENARIO 2)

FIGURE A3.2

LEGEND:

- HKCEC2W: HKCEC RECLAMATION STAGE 2 (WEST)
- HKCEC2E: HKCEC RECLAMATION STAGE 2 (EAST)
- HKCEC3W: HKCEC RECLAMATION STAGE 3 (WEST)
- HKCEC3Ea: HKCEC RECLAMATION STAGE 3 (EAST) PART a
- HKCEC3Eb: HKCEC RECLAMATION STAGE 3 (EAST) PART b
- WCR2 : WAN CHAI RECLAMATION STAGE 2
- NPR2W : NORTH POINT RECLAMATION STAGE 2 (WEST)
- TPCWAE : TEMPORARY PUBLIC CARGO WORKING AREA (EAST)
- TCBR1W : TEMPORARY CAUSEWAY BAY RECLAMATION STAGE 1 (WEST)
- TCBR2 : TEMPORARY CAUSEWAY BAY RECLAMATION STAGE 2
- TCBR3 : TEMPORARY CAUSEWAY BAY RECLAMATION STAGE 3
- : AREA SOURCE
- : LINE SOURCE



WAN CHAI DEVELOPMENT PHASE II - PLANNING AND ENGINEERING REVIEW

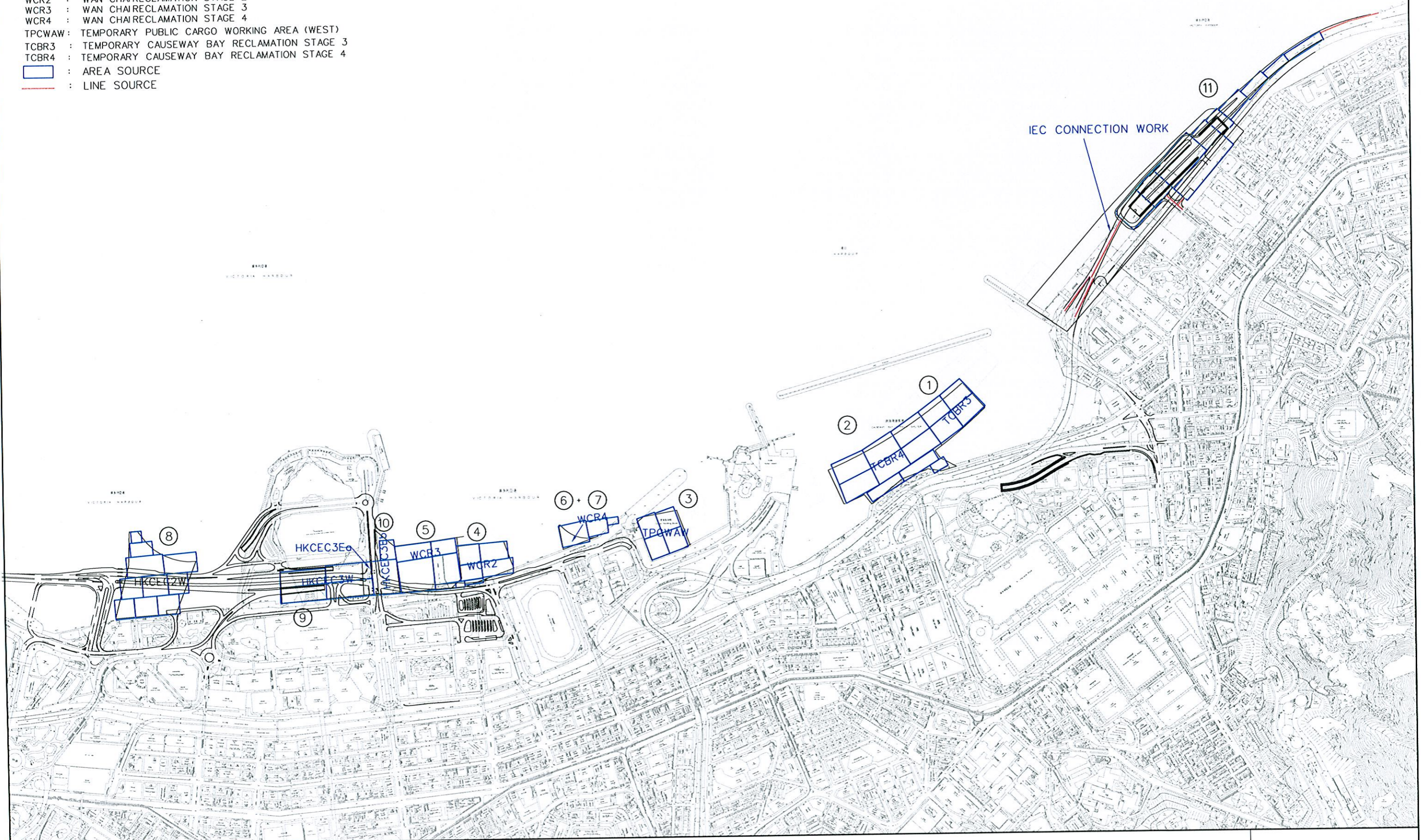
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LOCATION OF FUGITIVE DUST EMISSION SOURCES (SCENARIO 3)

FIGURE A3.3

LEGEND:

- HKCEC2W: HKCEC RECLAMATION STAGE 2 (WEST)
- HKCEC3W: HKCEC RECLAMATION STAGE 3 (WEST)
- HKCEC3Ea: HKCEC RECLAMATION STAGE 3 (EAST) PART a
- HKCEC3Eb: HKCEC RECLAMATION STAGE 3 (EAST) PART b
- WCR2 : WAN CHAI RECLAMATION STAGE 2
- WCR3 : WAN CHAI RECLAMATION STAGE 3
- WCR4 : WAN CHAI RECLAMATION STAGE 4
- TPCWAW: TEMPORARY PUBLIC CARGO WORKING AREA (WEST)
- TCBR3 : TEMPORARY CAUSEWAY BAY RECLAMATION STAGE 3
- TCBR4 : TEMPORARY CAUSEWAY BAY RECLAMATION STAGE 4
- : AREA SOURCE
- : LINE SOURCE



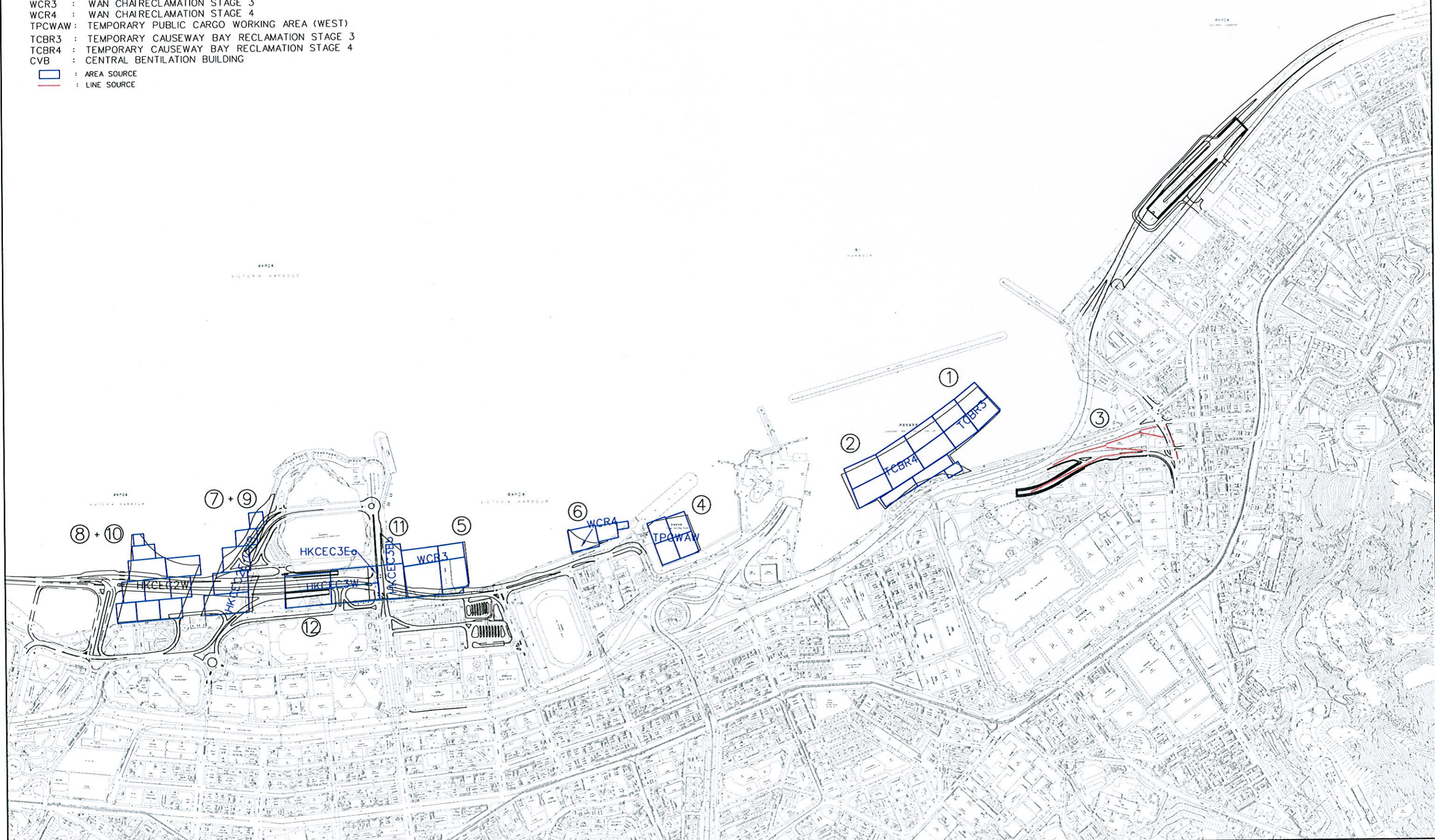
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LOCATION OF FUGITIVE DUST EMISSION SOURCES (SCENARIO 4)

FIGURE A3.4

LEGEND:

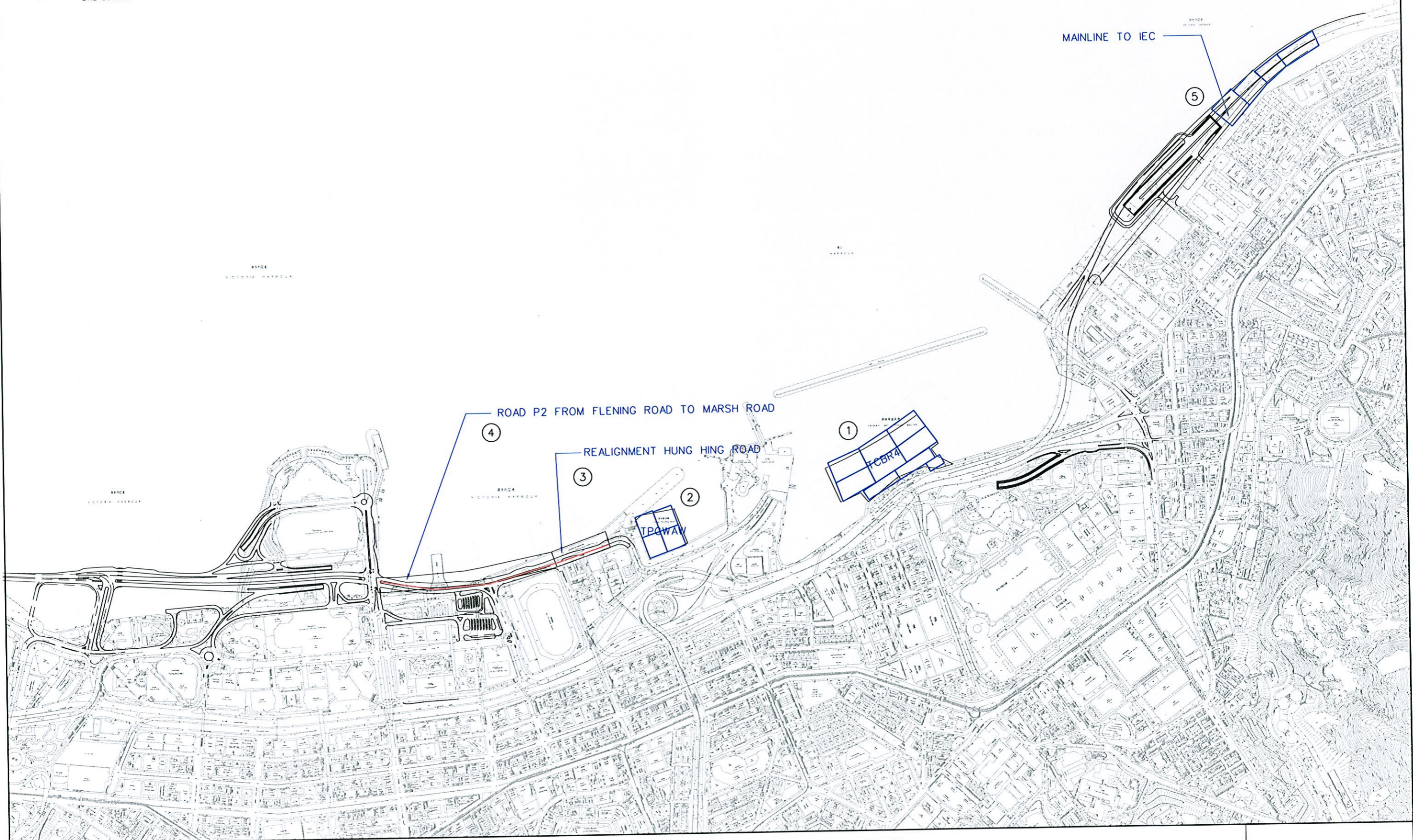
- HKCEC2W: HKCEC RECLAMATION STAGE 2 (WEST)
  - HKCEC2E: HKCEC RECLAMATION STAGE 2 (EAST)
  - HKCEC3W: HKCEC RECLAMATION STAGE 3 (WEST)
  - HKCEC3Ea: HKCEC RECLAMATION STAGE 3 (EAST) PART a
  - HKCEC3Eb: HKCEC RECLAMATION STAGE 3 (EAST) PART b
  - WCR3 : WAN CHAI RECLAMATION STAGE 3
  - WCR4 : WAN CHAI RECLAMATION STAGE 4
  - TPCWAW: TEMPORARY PUBLIC CARGO WORKING AREA (WEST)
  - TCBR3 : TEMPORARY CAUSEWAY BAY RECLAMATION STAGE 3
  - TCBR4 : TEMPORARY CAUSEWAY BAY RECLAMATION STAGE 4
  - CVB : CENTRAL BENTILATION BUILDING
- : AREA SOURCE  
 : LINE SOURCE



WAN CHAI DEVELOPMENT PHASE II - PLANNING AND ENGINEERING REVIEW

LEGEND:

- TPCWA : TEMPORARY PUBLIC CARGO WORKING AREA (WEST)
- TCBR4 : TEMPORARY CAUSEWAY BAY RECLAMATION STAGE 4
- : AREA SOURCE
- : LINE SOURCE



WAN CHAI DEVELOPMENT PHASE II - PLANNING AND ENGINEERING REVIEW

# LOCATION OF FUGITIVE DUST EMISSION SOURCES (SCENARIO 6)

FIGURE A3.6