

**APPENDIX 3A:**

**Details of Construction Phase  
Air Quality Assessment**

<b>Appendix 3A1: Unmitigated Construction Phase Dust Emission Factors</b>		
<b>Daytime Dust Emissions from San Wai STW Works Area *</b>		
<b>1 Truck unloading</b>		
2-way truck flow (veh/hr)	40	estimated
Truck volume (Mg)	10	calculated
Total material handling (Mg/hr)	200	assumed
TSP emission rate (kg/hr)	2.00E-01	calculated based on AP-42 Table 11.9-4
<b>2 Bulldozing</b>		
Moisture content (%)	7.9	mean value from AP-42 Table 11.9-3 for bulldozer
Silt content (%)	6.9	mean value from AP-42 Table 11.9-3 for bulldozer
TSP emission rate (kg/hr)	1.80E+00	calculated based on AP-42 Table 11.9-2
<b>3 Truck loading</b>		
2-way truck flow (veh/hr)	40	estimated
Truck volume (Mg)	10	estimated
Total material handling (Mg/hr)	200	calculated
TSP emission rate (kg/hr)	3.60E+00	calculated based on AP-42 Table 11.9-4
<b>4 Vehicle traffic on unpaved roads</b>		
Silt content (%)	4.3	mean value from AP-42 Table 11.9-3 for haul truck
Moisture content (%)	2.4	mean value from AP-42 Table 11.9-3 for haul truck
Average weight of vehicle (Mg)	24	estimated
2-way truck flow (veh/hr)	40	estimated
Average one-way travel distance within site (km)	0.15	estimated
TSP emission rate (kg/hr)	8.17E+00	calculated based on AP-42 Section 13.2.2
<b>5 Site erosion</b>		
TSP emission rate (Mg/hectare/yr)	0.85	AP-42 Table 11.9-4
Total site area (sq.m)	53337	estimated
TSP emission rate (kg/hr)	5.18E-01	calculated
<b>Total daytime TSP emissions from San Wai STW works area (unmitigated)</b>	<b>14.29 kg/hr</b>	
	or	7.44E-05 g/sq.m/s
<b>Nighttime Dust Emissions from San Wai STW Works Area</b>		
<b>1 Site erosion</b>		
TSP emission rate (Mg/hectare/yr)	0.85	AP-42 Table 11.9-4
Total site area (sq.m)	53337	estimated
TSP emission rate (kg/hr)	5.18E-01	calculated
<b>Total nighttime TSP emissions from San Wai STW works area</b>	<b>0.52 kg/hr</b>	
	or	2.70E-06 g/sq.m/s
<b>Daytime Dust Emissions from DBL Works Area *</b>		
<b>1 Truck unloading</b>		
2-way truck flow (veh/hr)	18	estimated
Truck volume (Mg)	10	calculated
Total material handling (Mg/hr)	90	assumed
TSP emission rate (kg/hr)	9.00E-02	calculated based on AP-42 Table 11.9-4
<b>2 Bulldozing</b>		
Moisture content (%)	7.9	mean value from AP-42 Table 11.9-3 for bulldozer
Silt content (%)	6.9	mean value from AP-42 Table 11.9-3 for bulldozer
TSP emission rate (kg/hr)	1.80E+00	calculated based on AP-42 Table 11.9-2
<b>3 Truck loading</b>		
2-way truck flow (veh/hr)	18	estimated
Truck volume (Mg)	10	estimated
Total material handling (Mg/hr)	90	calculated
TSP emission rate (kg/hr)	1.62E+00	calculated based on AP-42 Table 11.9-4
<b>4 Vehicle traffic on unpaved roads</b>		
Silt content (%)	4.3	mean value from AP-42 Table 11.9-3 for haul truck
Moisture content (%)	2.4	mean value from AP-42 Table 11.9-3 for haul truck
Average weight of vehicle (Mg)	24	estimated
2-way truck flow (veh/hr)	18	estimated
Average one-way travel distance within site (km)	0.25	estimated
TSP emission rate (kg/hr)	6.13E+00	calculated based on AP-42 Section 13.2.2
<b>5 Site erosion</b>		
TSP emission rate (Mg/hectare/yr)	0.85	AP-42 Table 11.9-4
Total site area (sq.m)	147875	estimated
TSP emission rate (kg/hr)	1.43E+00	calculated
<b>Total daytime TSP emissions from DBL works area (unmitigated)</b>	<b>11.07 kg/hr</b>	
	or	2.08E-05 g/sq.m/s

<b>Nighttime Dust Emissions from DBL Works Area</b>		
<b>1 Site erosion</b>		
TSP emission rate (Mg/hectare/yr)	0.85	AP-42 Table 11.9-4
Total site area (sq.m)	147875	estimated
TSP emission rate (kg/hr)	1.43E+00	calculated
<b>Total nighttime TSP emissions from DBL works area</b>		
	<b>1.43 kg/hr</b>	
	or 2.70E-06	g/sq.m/s
<b>Daytime Dust Emissions from HSKNDA Roads Works Area *</b>		
<b>1 Truck unloading</b>		
2-way truck flow (veh/hr)	18	estimated
Truck volume (Mg)	10	calculated
Total material handling (Mg/hr)	90	assumed
TSP emission rate (kg/hr)	9.00E-02	calculated based on AP-42 Table 11.9-4
<b>2 Bulldozing</b>		
Moisture content (%)	7.9	mean value from AP-42 Table 11.9-3 for bulldozer
Silt content (%)	6.9	mean value from AP-42 Table 11.9-3 for bulldozer
TSP emission rate (kg/hr)	1.80E+00	calculated based on AP-42 Table 11.9-2
<b>3 Truck loading</b>		
2-way truck flow (veh/hr)	18	estimated
Truck volume (Mg)	10	estimated
Total material handling (Mg/hr)	90	calculated
TSP emission rate (kg/hr)	1.62E+00	calculated based on AP-42 Table 11.9-4
<b>4 Vehicle traffic on unpaved roads</b>		
Silt content (%)	4.3	mean value from AP-42 Table 11.9-3 for haul truck
Moisture content (%)	2.4	mean value from AP-42 Table 11.9-3 for haul truck
Average weight of vehicle (Mg)	24	estimated
2-way truck flow (veh/hr)	18	estimated
Average one-way travel distance within site (km)	0.25	estimated
TSP emission rate (kg/hr)	6.13E+00	calculated based on AP-42 Section 13.2.2
<b>5 Site erosion</b>		
TSP emission rate (Mg/hectare/yr)	0.85	AP-42 Table 11.9-4
Total site area (sq.m)	54518	estimated
TSP emission rate (kg/hr)	5.29E-01	calculated
<b>Total daytime TSP emissions from HSKNDA Roads Works Area (unmitigated)</b>		
	<b>10.16 kg/hr</b>	
	or 5.18E-05	g/sq.m/s
<b>Nighttime Dust Emissions from HSKNDA Roads Works Area</b>		
<b>1 Site erosion</b>		
TSP emission rate (Mg/hectare/yr)	0.85	AP-42 Table 11.9-4
Total site area (sq.m)	54518	estimated
TSP emission rate (kg/hr)	5.29E-01	calculated
<b>Total nighttime TSP emissions from HSKNDA Roads Works Area</b>		
	<b>0.53 kg/hr</b>	
	or 2.70E-06	g/sq.m/s
<b>Daytime Dust Emissions from HSKNDA Area 5A Works Area ' </b>		
<b>1 Truck unloading</b>		
2-way truck flow (veh/hr)	8	estimated
Truck volume (Mg)	10	calculated
Total material handling (Mg/hr)	40	assumed
TSP emission rate (kg/hr)	4.00E-02	calculated based on AP-42 Table 11.9-4
<b>2 Bulldozing</b>		
Moisture content (%)	7.9	mean value from AP-42 Table 11.9-3 for bulldozer
Silt content (%)	6.9	mean value from AP-42 Table 11.9-3 for bulldozer
TSP emission rate (kg/hr)	1.80E+00	calculated based on AP-42 Table 11.9-2
<b>3 Truck loading</b>		
2-way truck flow (veh/hr)	8	estimated
Truck volume (Mg)	10	estimated
Total material handling (Mg/hr)	40	calculated
TSP emission rate (kg/hr)	7.20E-01	calculated based on AP-42 Table 11.9-4
<b>4 Vehicle traffic on unpaved roads</b>		
Silt content (%)	4.3	mean value from AP-42 Table 11.9-3 for haul truck
Moisture content (%)	2.4	mean value from AP-42 Table 11.9-3 for haul truck
Average weight of vehicle (Mg)	24	estimated
2-way truck flow (veh/hr)	8	estimated
Average one-way travel distance within site (km)	0.25	estimated
TSP emission rate (kg/hr)	2.72E+00	calculated based on AP-42 Section 13.2.2

<b>5 Site erosion</b>		
TSP emission rate (Mg/hectare/yr)	0.85	AP-42 Table 11.9-4
Total site area (sq.m)	52039	estimated
TSP emission rate (kg/hr)	5.05E-01	calculated
<b>Total daytime TSP emissions from HSKNDA Area 5A Works Area (unmitigated)</b>		
	<b>5.79 kg/hr</b>	
	or 3.09E-05	g/sq.m/s
<b>Nighttime Dust Emissions from HSKNDA Area 5A Works Area</b>		
<b>1 Site erosion</b>		
TSP emission rate (Mg/hectare/yr)	0.85	AP-42 Table 11.9-4
Total site area (sq.m)	52039	estimated
TSP emission rate (kg/hr)	5.05E-01	calculated
<b>Total nighttime TSP emissions from HSKNDA Area 5A Works Area</b>		
	<b>0.50 kg/hr</b>	
	or 2.70E-06	g/sq.m/s
<b>Daytime Dust Emissions from All Sewer Works Area *</b>		
<b>1 Truck unloading</b>		
2-way truck flow (veh/hr)	4	estimated
Truck volume (Mg)	10	calculated
Total material handling (Mg/hr)	20	assumed
TSP emission rate (kg/hr)	2.00E-02	calculated based on AP-42 Table 11.9-4
<b>2 Bulldozing</b>		
Moisture content (%)	7.9	mean value from AP-42 Table 11.9-3 for bulldozer
Silt content (%)	6.9	mean value from AP-42 Table 11.9-3 for bulldozer
TSP emission rate (kg/hr)	1.80E+00	calculated based on AP-42 Table 11.9-2
<b>3 Truck loading</b>		
2-way truck flow (veh/hr)	4	estimated
Truck volume (Mg)	10	estimated
Total material handling (Mg/hr)	20	calculated
TSP emission rate (kg/hr)	3.60E-01	calculated based on AP-42 Table 11.9-4
<b>4 Vehicle traffic on unpaved roads</b>		
Silt content (%)	4.3	mean value from AP-42 Table 11.9-3 for haul truck
Moisture content (%)	2.4	mean value from AP-42 Table 11.9-3 for haul truck
Average weight of vehicle (Mg)	24	estimated
2-way truck flow (veh/hr)	4	estimated
Average one-way travel distance within site (km)	0.25	estimated
TSP emission rate (kg/hr)	1.36E+00	calculated based on AP-42 Section 13.2.2
<b>5 Site erosion</b>		
TSP emission rate (Mg/hectare/yr)	0.85	AP-42 Table 11.9-4
Total site area (sq.m)	28590	estimated
TSP emission rate (kg/hr)	2.77E-01	calculated
<b>Total daytime TSP emissions from All Sewer Works Area (unmitigated)</b>		
	<b>3.82 kg/hr</b>	
	or 3.71E-05	g/sq.m/s
<b>Nighttime Dust Emissions from All Sewer Works Area</b>		
<b>1 Site erosion</b>		
TSP emission rate (Mg/hectare/yr)	0.85	AP-42 Table 11.9-4
Total site area (sq.m)	28590	estimated
TSP emission rate (kg/hr)	2.77E-01	calculated
<b>Total nighttime TSP emissions from All Sewer Works Area</b>		
	<b>0.28 kg/hr</b>	
	or 2.70E-06	g/sq.m/s
* Note:		
1. For the locations of Works Areas, pls refer to Figure A3.1		
2. DBL Works Area means 1.5 km long Works Area of Deep Bay Link, including that within San Wai study area		
3. HSKNDA Roads Works Area means Road P1 Works Area within San Wai study area		
4. HSKNDA Area 5A Works Area means that part of it within San Wai study area		
5. All Sewer Works Area includes Alternative 4 Bypass Culvert Works Area, YLKTSSD Stage I (Package 1A-2T) Works Area, YLKTSSD Stage II (Original Package 2A-1T) Works Area and YLKTSSD Stage II (Alternative Package 2A-1T) Works Area within San Wai study area		

<b>Appendix 3A2: Mitigated Construction Phase Dust Emission Factors</b>		
<b>Daytime Dust Emissions from San Wai STW Works Area *</b>		
<b>1 Truck unloading</b>		
2-way truck flow (veh/hr)	40	estimated
Truck volume (Mg)	10	calculated
Total material handling (Mg/hr)	200	assumed
Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
TSP emission rate (kg/hr)	1.00E-01	calculated based on AP-42 Table 11.9-4
<b>2 Bulldozing</b>		
Moisture content (%)	7.9	mean value from AP-42 Table 11.9-3 for bulldozer
Silt content (%)	6.9	mean value from AP-42 Table 11.9-3 for bulldozer
Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
TSP emission rate (kg/hr)	8.99E-01	calculated based on AP-42 Table 11.9-2
<b>3 Truck loading</b>		
2-way truck flow (veh/hr)	40	estimated
Truck volume (Mg)	10	estimated
Total material handling (Mg/hr)	200	calculated
Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
TSP emission rate (kg/hr)	1.80E+00	calculated based on AP-42 Table 11.9-4
<b>4 Vehicle traffic on unpaved roads</b>		
Silt content (%)	4.3	mean value from AP-42 Table 11.9-3 for haul truck
Moisture content (%)	2.4	mean value from AP-42 Table 11.9-3 for haul truck
Average weight of vehicle (Mg)	24	estimated
2-way truck flow (veh/hr)	40	estimated
Average one-way travel distance within site (km)	0.15	estimated
Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
Dust reduction due to speed control (%)	59	Speed limit reduce to 10km/hr, reduction according to Section 13.2.2.2
TSP emission rate (kg/hr)	1.69E+00	calculated based on AP-42 Section 13.2.2
<b>5 Site erosion</b>		
TSP emission rate (Mg/hectare/yr)	0.85	AP-42 Table 11.9-4
Total site area (sq.m)	53337	estimated
Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
TSP emission rate (kg/hr)	2.59E-01	calculated
<b>Total daytime TSP emissions from San Wai STW works area (mitigated)</b>	<b>4.75 kg/hr</b>	
	or	2.47E-05 g/sq.m/s
<b>Nighttime Dust Emissions from San Wai STW Works Area</b>		
<b>1 Site erosion</b>		
TSP emission rate (Mg/hectare/yr)	0.85	AP-42 Table 11.9-4
Total site area (sq.m)	53337	estimated
TSP emission rate (kg/hr)	5.18E-01	calculated
<b>Total nighttime TSP emissions from San Wai STW works area</b>	<b>0.52 kg/hr</b>	
	or	2.70E-06 g/sq.m/s
<b>Daytime Dust Emissions from DBL Works Area *</b>		
<b>1 Truck unloading</b>		
2-way truck flow (veh/hr)	18	estimated
Truck volume (Mg)	10	calculated
Total material handling (Mg/hr)	90	assumed
Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
TSP emission rate (kg/hr)	4.50E-02	calculated based on AP-42 Table 11.9-4
<b>2 Bulldozing</b>		
Moisture content (%)	7.9	mean value from AP-42 Table 11.9-3 for bulldozer
Silt content (%)	6.9	mean value from AP-42 Table 11.9-3 for bulldozer
Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
TSP emission rate (kg/hr)	8.99E-01	calculated based on AP-42 Table 11.9-2
<b>3 Truck loading</b>		
2-way truck flow (veh/hr)	18	estimated
Truck volume (Mg)	10	estimated
Total material handling (Mg/hr)	90	calculated
Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
TSP emission rate (kg/hr)	8.10E-01	calculated based on AP-42 Table 11.9-4
<b>4 Vehicle traffic on unpaved roads</b>		
Silt content (%)	4.3	mean value from AP-42 Table 11.9-3 for haul truck
Moisture content (%)	2.4	mean value from AP-42 Table 11.9-3 for haul truck
Average weight of vehicle (Mg)	24	estimated
2-way truck flow (veh/hr)	18	estimated
Average one-way travel distance within site (km)	0.25	estimated
Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
Dust reduction due to speed control (%)	59	Speed limit reduce to 10km/hr, reduction according to Section 13.2.2.2
TSP emission rate (kg/hr)	1.27E+00	calculated based on AP-42 Section 13.2.2

<b>5 Site erosion</b>		
TSP emission rate (Mg/hectare/yr)	0.85	AP-42 Table 11.9-4
Total site area (sq.m)	147875	estimated
Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
TSP emission rate (kg/hr)	7.17E-01	calculated
<b>Total daytime TSP emissions from DBL works area (mitigated)</b>		
	<b>3.74 kg/hr</b>	
	or 7.02E-06	g/sq.m/s
<b>Nighttime Dust Emissions from DBL Works Area</b>		
<b>1 Site erosion</b>		
TSP emission rate (Mg/hectare/yr)	0.85	AP-42 Table 11.9-4
Total site area (sq.m)	147875	estimated
TSP emission rate (kg/hr)	1.43E+00	calculated
<b>Total nighttime TSP emissions from DBL works area</b>		
	<b>1.43 kg/hr</b>	
	or 2.70E-06	g/sq.m/s
<b>Daytime Dust Emissions from HSKNDA Roads Works Area*</b>		
<b>1 Truck unloading</b>		
2-way truck flow (veh/hr)	18	estimated
Truck volume (Mg)	10	calculated
Total material handling (Mg/hr)	90	assumed
Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
TSP emission rate (kg/hr)	4.50E-02	calculated based on AP-42 Table 11.9-4
<b>2 Bulldozing</b>		
Moisture content (%)	7.9	mean value from AP-42 Table 11.9-3 for bulldozer
Silt content (%)	6.9	mean value from AP-42 Table 11.9-3 for bulldozer
Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
TSP emission rate (kg/hr)	8.99E-01	calculated based on AP-42 Table 11.9-2
<b>3 Truck loading</b>		
2-way truck flow (veh/hr)	18	estimated
Truck volume (Mg)	10	estimated
Total material handling (Mg/hr)	90	calculated
Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
TSP emission rate (kg/hr)	8.10E-01	calculated based on AP-42 Table 11.9-4
<b>4 Vehicle traffic on unpaved roads</b>		
Silt content (%)	4.3	mean value from AP-42 Table 11.9-3 for haul truck
Moisture content (%)	2.4	mean value from AP-42 Table 11.9-3 for haul truck
Average weight of vehicle (Mg)	24	estimated
2-way truck flow (veh/hr)	18	estimated
Average one-way travel distance within site (km)	0.25	estimated
Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
Dust reduction due to speed control (%)	59	Speed limit reduce to 10km/hr, reduction according to Section 13.2.2.2
TSP emission rate (kg/hr)	1.27E+00	calculated based on AP-42 Section 13.2.2
<b>5 Site erosion</b>		
TSP emission rate (Mg/hectare/yr)	0.85	AP-42 Table 11.9-4
Total site area (sq.m)	54518	estimated
Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
TSP emission rate (kg/hr)	2.64E-01	calculated
<b>Total daytime TSP emissions from HSKNDA Roads Works Area (mitigated)</b>		
	<b>3.28 kg/hr</b>	
	or 1.67E-05	g/sq.m/s
<b>Nighttime Dust Emissions from HSKNDA Roads Works Area</b>		
<b>1 Site erosion</b>		
TSP emission rate (Mg/hectare/yr)	0.85	AP-42 Table 11.9-4
Total site area (sq.m)	54518	estimated
TSP emission rate (kg/hr)	5.29E-01	calculated
<b>Total nighttime TSP emissions from HSKNDA Roads Works Area</b>		
	<b>0.53 kg/hr</b>	
	or 2.70E-06	g/sq.m/s
<b>Daytime Dust Emissions from HSKNDA Area 5A Works Area '</b>		
<b>1 Truck unloading</b>		
2-way truck flow (veh/hr)	8	estimated
Truck volume (Mg)	10	calculated
Total material handling (Mg/hr)	40	assumed
Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
TSP emission rate (kg/hr)	2.00E-02	calculated based on AP-42 Table 11.9-4

<b>2</b>	<b>Bulldozing</b>		
	Moisture content (%)	7.9	mean value from AP-42 Table 11.9-3 for bulldozer
	Silt content (%)	6.9	mean value from AP-42 Table 11.9-3 for bulldozer
	Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
	TSP emission rate (kg/hr)	8.99E-01	calculated based on AP-42 Table 11.9-2
<b>3</b>	<b>Truck loading</b>		
	2-way truck flow (veh/hr)	8	estimated
	Truck volume (Mg)	10	estimated
	Total material handling (Mg/hr)	40	calculated
	Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
	TSP emission rate (kg/hr)	3.60E-01	calculated based on AP-42 Table 11.9-4
<b>4</b>	<b>Vehicle traffic on unpaved roads</b>		
	Silt content (%)	4.3	mean value from AP-42 Table 11.9-3 for haul truck
	Moisture content (%)	2.4	mean value from AP-42 Table 11.9-3 for haul truck
	Average weight of vehicle (Mg)	24	estimated
	2-way truck flow (veh/hr)	8	estimated
	Average one-way travel distance within site (km)	0.25	estimated
	Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
	Dust reduction due to speed control (%)	59	Speed limit reduce to 10km/hr, reduction according to Section 13.2.2.2
	TSP emission rate (kg/hr)	5.63E-01	calculated based on AP-42 Section 13.2.2
<b>5</b>	<b>Site erosion</b>		
	TSP emission rate (Mg/hectare/yr)	0.85	AP-42 Table 11.9-4
	Total site area (sq.m)	52039	estimated
	Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
	TSP emission rate (kg/hr)	2.52E-01	calculated
	<b>Total daytime TSP emissions from HSKNDA Area 5A Works Area (mitigated)</b>	<b>2.09 kg/hr</b>	
	or	1.12E-05	g/sq.m/s
	<b>Nighttime Dust Emissions from HSKNDA Area 5A Works Area</b>		
<b>1</b>	<b>Site erosion</b>		
	TSP emission rate (Mg/hectare/yr)	0.85	AP-42 Table 11.9-4
	Total site area (sq.m)	52039	estimated
	TSP emission rate (kg/hr)	5.05E-01	calculated
	<b>Total nighttime TSP emissions from HSKNDA Area 5A Works Area</b>	<b>0.50 kg/hr</b>	
	or	2.70E-06	g/sq.m/s
	<b>Daytime Dust Emissions from All Sewer Works Area *</b>		
<b>1</b>	<b>Truck unloading</b>		
	2-way truck flow (veh/hr)	4	estimated
	Truck volume (Mg)	10	calculated
	Total material handling (Mg/hr)	20	assumed
	Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
	TSP emission rate (kg/hr)	1.00E-02	calculated based on AP-42 Table 11.9-4
<b>2</b>	<b>Bulldozing</b>		
	Moisture content (%)	7.9	mean value from AP-42 Table 11.9-3 for bulldozer
	Silt content (%)	6.9	mean value from AP-42 Table 11.9-3 for bulldozer
	Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
	TSP emission rate (kg/hr)	8.99E-01	calculated based on AP-42 Table 11.9-2
<b>3</b>	<b>Truck loading</b>		
	2-way truck flow (veh/hr)	4	estimated
	Truck volume (Mg)	10	estimated
	Total material handling (Mg/hr)	20	calculated
	Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
	TSP emission rate (kg/hr)	1.80E-01	calculated based on AP-42 Table 11.9-4
<b>4</b>	<b>Vehicle traffic on unpaved roads</b>		
	Silt content (%)	4.3	mean value from AP-42 Table 11.9-3 for haul truck
	Moisture content (%)	2.4	mean value from AP-42 Table 11.9-3 for haul truck
	Average weight of vehicle (Mg)	24	estimated
	2-way truck flow (veh/hr)	4	estimated
	Average one-way travel distance within site (km)	0.25	estimated
	Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
	Dust reduction due to speed control (%)	59	Speed limit reduce to 10km/hr, reduction according to Section 13.2.2.2
	TSP emission rate (kg/hr)	2.81E-01	calculated based on AP-42 Section 13.2.2
<b>5</b>	<b>Site erosion</b>		
	TSP emission rate (Mg/hectare/yr)	0.85	AP-42 Table 11.9-4
	Total site area (sq.m)	28590	estimated
	Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
	TSP emission rate (kg/hr)	1.39E-01	calculated
	<b>Total daytime TSP emissions from All Sewer Works Area (mitigated)</b>	<b>1.51 kg/hr</b>	
	or	1.47E-05	g/sq.m/s

<b>Nighttime Dust Emissions from All Sewer Works Area</b>		
<b>1 Site erosion</b>		
TSP emission rate (Mg/hectare/yr)	0.85	AP-42 Table 11.9-4
Total site area (sq.m)	28590	estimated
TSP emission rate (kg/hr)	2.77E-01	calculated
<b>Total nighttime TSP emissions from All Sewer Works Area</b>	<b>0.28 kg/hr</b>	
	or	2.70E-06 g/sq.m/s
<b>*</b>	<b>Note:</b>	
	1. For the locations of Works Areas, pls refer to Figure A3.1	
	2. DBL Works Area means 1.5 km long Works Area of Deep Bay Link, including that within San Wai study area	
	3. HSKNDA Roads Works Area means Road P1 Works Area within San Wai study area	
	4. HSKNDA Area 5A Works Area means that part of it within San Wai study area	
	5. All Sewer Works Area includes Alternative 4 Bypass Culvert Works Area, YLKTSSD Stage I (Package 1A-2T) Works Area, YLKTSSD Stage II (Original Package 2A-1T) Works Area and YLKTSSD Stage II (Alternative Package 2A-1T) Works Area within San Wai study area	



<b>Appendix 3A3: Unmitigated Construction Phase Dust Emission Factors</b>		
<b>Daytime Dust Emissions from Ha Tsuen PS Works Area *</b>		
<b>1 Truck unloading</b>		
2-way truck flow (veh/hr)	4	estimated
Truck volume (Mg)	10	calculated
Total material handling (Mg/hr)	20	assumed
TSP emission rate (kg/hr)	2.00E-02	calculated based on AP-42 Table 11.9-4
<b>2 Bulldozing</b>		
Moisture content (%)	7.9	mean value from AP-42 Table 11.9-3 for bulldozer
Silt content (%)	6.9	mean value from AP-42 Table 11.9-3 for bulldozer
TSP emission rate (kg/hr)	1.80E+00	calculated based on AP-42 Table 11.9-2
<b>3 Truck loading</b>		
2-way truck flow (veh/hr)	4	estimated
Truck volume (Mg)	10	estimated
Total material handling (Mg/hr)	20	calculated
TSP emission rate (kg/hr)	3.60E-01	calculated based on AP-42 Table 11.9-4
<b>4 Vehicle traffic on unpaved roads</b>		
Silt content (%)	4.3	mean value from AP-42 Table 11.9-3 for haul truck
Moisture content (%)	2.4	mean value from AP-42 Table 11.9-3 for haul truck
Average weight of vehicle (Mg)	24	estimated
2-way truck flow (veh/hr)	4	estimated
Average one-way travel distance within site (km)	0.05	estimated
TSP emission rate (kg/hr)	2.72E-01	calculated based on AP-42 Section 13.2.2
<b>5 Site erosion</b>		
TSP emission rate (Mg/hectare/yr)	0.85	AP-42 Table 11.9-4
Total site area (sq.m)	13081	estimated
TSP emission rate (kg/hr)	1.27E-01	calculated
<b>Total daytime TSP emissions from Ha Tsuen PS Works Area (unmitigated)</b>	<b>2.58 kg/hr</b>	
	or	5.47E-05 g/sq.m/s
<b>Nighttime Dust Emissions from Ha Tsuen PS Works Area</b>		
<b>1 Site erosion</b>		
TSP emission rate (Mg/hectare/yr)	0.85	AP-42 Table 11.9-4
Total site area (sq.m)	13081	estimated
TSP emission rate (kg/hr)	1.27E-01	calculated
<b>Total nighttime TSP emissions from Ha Tsuen PS Works Area</b>	<b>0.13 kg/hr</b>	
	or	2.70E-06 g/sq.m/s
<b>Daytime Dust Emissions from All Sewer Works Area *</b>		
<b>1 Truck unloading</b>		
2-way truck flow (veh/hr)	4	estimated
Truck volume (Mg)	10	calculated
Total material handling (Mg/hr)	20	assumed
TSP emission rate (kg/hr)	2.00E-02	calculated based on AP-42 Table 11.9-4
<b>2 Bulldozing</b>		
Moisture content (%)	7.9	mean value from AP-42 Table 11.9-3 for bulldozer
Silt content (%)	6.9	mean value from AP-42 Table 11.9-3 for bulldozer
TSP emission rate (kg/hr)	1.80E+00	calculated based on AP-42 Table 11.9-2
<b>3 Truck loading</b>		
2-way truck flow (veh/hr)	4	estimated
Truck volume (Mg)	10	estimated
Total material handling (Mg/hr)	20	calculated
TSP emission rate (kg/hr)	3.60E-01	calculated based on AP-42 Table 11.9-4
<b>4 Vehicle traffic on unpaved roads</b>		
Silt content (%)	4.3	mean value from AP-42 Table 11.9-3 for haul truck
Moisture content (%)	2.4	mean value from AP-42 Table 11.9-3 for haul truck
Average weight of vehicle (Mg)	24	estimated
2-way truck flow (veh/hr)	4	estimated
Average one-way travel distance within site (km)	0.25	estimated
TSP emission rate (kg/hr)	1.36E+00	calculated based on AP-42 Section 13.2.2
<b>5 Site erosion</b>		
TSP emission rate (Mg/hectare/yr)	0.85	AP-42 Table 11.9-4
Total site area (sq.m)	18898	estimated
TSP emission rate (kg/hr)	1.83E-01	calculated
<b>Total daytime TSP emissions from All Sewer Works Area (unmitigated)</b>	<b>3.72 kg/hr</b>	
	or	5.47E-05 g/sq.m/s

<b>Nighttime Dust Emissions from All Sewer Works Area</b>		
<b>1 Site erosion</b>		
TSP emission rate (Mg/hectare/yr)	0.85	AP-42 Table 11.9-4
Total site area (sq.m)	18898	estimated
TSP emission rate (kg/hr)	1.83E-01	calculated
<b>Total nighttime TSP emissions from All Sewer Works Area</b>	<b>0.18 kg/hr</b>	
	or	2.70E-06 g/sq.m/s
* Note:		
1. For the locations of Works Areas, pls refer to Figure A3.2		
2. All Sewer Works Area includes YLKTSSD Stage I (Package 1A-2T) Works Area and YLKTSSD Stage II (Original Package 2A-1T) Works Area in Figure A3.2.		

<b>Appendix 3A4: Mitigated Construction Phase Dust Emission Factors</b>		
<b>Daytime Dust Emissions from Ha Tsuen PS Works Area *</b>		
<b>1 Truck unloading</b>		
2-way truck flow (veh/hr)	4	estimated
Truck volume (Mg)	10	calculated
Total material handling (Mg/hr)	20	assumed
Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
TSP emission rate (kg/hr)	1.00E-02	calculated based on AP-42 Table 11.9-4
<b>2 Bulldozing</b>		
Moisture content (%)	7.9	mean value from AP-42 Table 11.9-3 for bulldozer
Silt content (%)	6.9	mean value from AP-42 Table 11.9-3 for bulldozer
Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
TSP emission rate (kg/hr)	8.99E-01	calculated based on AP-42 Table 11.9-2
<b>3 Truck loading</b>		
2-way truck flow (veh/hr)	4	estimated
Truck volume (Mg)	10	estimated
Total material handling (Mg/hr)	20	calculated
Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
TSP emission rate (kg/hr)	1.80E-01	calculated based on AP-42 Table 11.9-4
<b>4 Vehicle traffic on unpaved roads</b>		
Silt content (%)	4.3	mean value from AP-42 Table 11.9-3 for haul truck
Moisture content (%)	2.4	mean value from AP-42 Table 11.9-3 for haul truck
Average weight of vehicle (Mg)	24	estimated
2-way truck flow (veh/hr)	4	estimated
Average one-way travel distance within site (km)	0.05	estimated
Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
Dust reduction due to speed control (%)	59	Speed limit reduce to 10km/hr, reduction according to Section 13.2.2.2
TSP emission rate (kg/hr)	5.63E-02	calculated based on AP-42 Section 13.2.2
<b>5 Site erosion</b>		
TSP emission rate (Mg/hectare/yr)	0.85	AP-42 Table 11.9-4
Total site area (sq.m)	13081	estimated
Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
TSP emission rate (kg/hr)	6.35E-02	calculated
<b>Total daytime TSP emissions from Ha Tsuen PS Works Area (mitigated)</b>	<b>1.21 kg/hr</b>	
	or 2.57E-05	g/sq.m/s
<b>Nighttime Dust Emissions from Ha Tsuen PS Works Area</b>		
<b>1 Site erosion</b>		
TSP emission rate (Mg/hectare/yr)	0.85	AP-42 Table 11.9-4
Total site area (sq.m)	13081	estimated
TSP emission rate (kg/hr)	1.27E-01	calculated
<b>Total nighttime TSP emissions from Ha Tsuen PS Works Area</b>	<b>0.13 kg/hr</b>	
	or 2.70E-06	g/sq.m/s
<b>Daytime Dust Emissions from All Sewer Works Area *</b>		
<b>1 Truck unloading</b>		
2-way truck flow (veh/hr)	4	estimated
Truck volume (Mg)	10	calculated
Total material handling (Mg/hr)	20	assumed
Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
TSP emission rate (kg/hr)	1.00E-02	calculated based on AP-42 Table 11.9-4
<b>2 Bulldozing</b>		
Moisture content (%)	7.9	mean value from AP-42 Table 11.9-3 for bulldozer
Silt content (%)	6.9	mean value from AP-42 Table 11.9-3 for bulldozer
Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
TSP emission rate (kg/hr)	8.99E-01	calculated based on AP-42 Table 11.9-2
<b>3 Truck loading</b>		
2-way truck flow (veh/hr)	4	estimated
Truck volume (Mg)	10	estimated
Total material handling (Mg/hr)	20	calculated
Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
TSP emission rate (kg/hr)	1.80E-01	calculated based on AP-42 Table 11.9-4
<b>4 Vehicle traffic on unpaved roads</b>		
Silt content (%)	4.3	mean value from AP-42 Table 11.9-3 for haul truck
Moisture content (%)	2.4	mean value from AP-42 Table 11.9-3 for haul truck
Average weight of vehicle (Mg)	24	estimated
2-way truck flow (veh/hr)	4	estimated
Average one-way travel distance within site (km)	0.25	estimated
Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
Dust reduction due to speed control (%)	59	Speed limit reduce to 10km/hr, reduction according to Section 13.2.2.2
TSP emission rate (kg/hr)	2.81E-01	calculated based on AP-42 Section 13.2.2

<b>5 Site erosion</b>		
TSP emission rate (Mg/hectare/yr)	0.85	AP-42 Table 11.9-4
Total site area (sq.m)	18898	estimated
Dust mitigation efficiency (%)	50	For twice daily watering with complete coverage, AP-42 4th edition S11.2.4.4
TSP emission rate (kg/hr)	9.17E-02	calculated
<b>Total daytime TSP emissions from All Sewer Works Area (mitigated)</b>	<b>1.46 kg/hr</b>	
	or 2.15E-05	g/sq.m/s
<b>Nighttime Dust Emissions from All Sewer Works Area</b>		
<b>1 Site erosion</b>		
TSP emission rate (Mg/hectare/yr)	0.85	AP-42 Table 11.9-4
Total site area (sq.m)	18898	estimated
TSP emission rate (kg/hr)	1.83E-01	calculated
<b>Total nighttime TSP emissions from All Sewer Works Area</b>	<b>0.18 kg/hr</b>	
	or 2.70E-06	g/sq.m/s
* Note:		
	1. For the locations of Works Areas, pls refer to Figure A3.2	
	2. All Sewer Works Area includes YLKTSSD Stage I (Package 1A-2T) Works Area and YLKTSSD Stage II (Original Package 2A-1T) Works Area in Figure A3.2.	