

**Appendix 3.4 Dust Emission Inventory of Concurrent Project**

Emission Source Listing in AERMOD  
 DHSRs Construction Dust Emission Sources

ID	Type	Construction Works	Coordinates		Length		Area (m <sup>2</sup> )	Base Height (m)	Release Height (m)	Angle (degree)	Working Hour Duration	Working Hour Mitigated			Non-Working Hour Mitigated		
			X1	Y1	X2	Y2						TSP	RSP	FSP	TSP	RSP	FSP
												(g/m <sup>2</sup> /s)	(g/m <sup>2</sup> /s)	(g/m <sup>2</sup> /s)	(g/m <sup>2</sup> /s)	(g/m <sup>2</sup> /s)	(g/m <sup>2</sup> /s)
AREA_22	Area	Water Mains Laying Works	837006.1	822763.3	18.0	3.0	53.32	79.6	0.5	0	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_23	Area	Water Mains Laying Works	837024.4	822763.5	18.0	3.0	53.32	79.6	0.5	0	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_24	Area	Water Mains Laying Works	837042.4	822763.5	18.0	3.0	53.32	79.6	0.5	0	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_25	Area	Water Mains Laying Works	837060.7	822763.5	18.0	3.0	53.32	79.6	0.5	0	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_26	Area	Water Mains Laying Works	836999.6	822689.2	5.0	13.7	68.56	79.6	0.5	35	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_27	Area	Water Mains Laying Works	837007.3	822700.4	5.0	13.7	68.56	79.6	0.5	35	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_28	Area	Water Mains Laying Works	837014.8	822711.5	5.0	13.7	68.56	79.6	0.5	35	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_29	Area	Water Mains Laying Works	837023.3	822722.8	5.0	13.7	68.56	63.7	0.5	49	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_30	Area	Water Mains Laying Works	837033.0	822732.3	5.0	13.7	68.56	68.1	0.5	49	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_31	Area	Water Mains Laying Works	837043.8	822741.3	5.0	13.7	68.56	68.1	0.5	56	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_32	Area	Water Mains Laying Works	837056.1	822748.3	5.0	13.7	68.56	72.2	0.5	56	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_33	Area	Water Mains Laying Works	837068.2	822754.5	5.0	13.7	68.56	72.2	0.5	56	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_34	Area	Water Mains Laying Works	837080.0	822760.4	5.0	13.7	68.56	77.5	0.5	56	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_35	Area	Water Mains Laying Works	837092.1	822766.7	5.0	13.7	68.56	80.3	0.5	56	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_36	Area	Water Mains Laying Works	837062.0	822732.7	5.0	13.7	68.56	70.3	0.5	0	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_37	Area	Water Mains Laying Works	837061.2	822731.8	13.7	5.0	68.56	70.3	0.5	41	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_38	Area	Water Mains Laying Works	837071.6	822723.0	13.7	5.0	68.56	68.8	0.5	41	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_39	Area	Water Mains Laying Works	837081.7	822722.8	5.0	13.7	68.56	67.2	0.5	65	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_40	Area	Water Mains Laying Works	837093.9	822725.2	5.0	13.7	68.56	67.2	0.5	65	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_41	Area	Water Mains Laying Works	837105.8	822731.5	5.0	13.7	68.56	67.2	0.5	65	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_42	Area	Water Mains Laying Works	837117.6	822738.5	5.0	13.7	68.56	64.3	0.5	65	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_43	Area	Water Mains Laying Works	837129.5	822744.7	5.0	13.7	68.56	64.3	0.5	65	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_44	Area	Water Mains Laying Works	837141.6	822751.0	5.0	13.7	68.56	64.3	0.5	65	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_45	Area	Water Mains Laying Works	837153.0	822756.0	5.0	13.7	68.56	64.3	0.5	53	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_46	Area	Water Mains Laying Works	837163.4	822764.4	5.0	13.7	68.56	64.3	0.5	53	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_47	Area	Water Mains Laying Works	837173.6	822773.3	5.0	13.7	68.56	64.3	0.5	53	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_48	Area	Water Mains Laying Works	837184.0	822782.2	5.0	13.7	68.56	61.5	0.5	53	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_49	Area	Water Mains Laying Works	837193.9	822791.7	5.0	13.7	68.56	61.5	0.5	53	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_50	Area	Water Mains Laying Works	837204.1	822801.7	5.0	13.7	68.56	59.9	0.5	53	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_51	Area	Water Mains Laying Works	837214.4	822811.2	5.0	13.7	68.56	59.9	0.5	53	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_52	Area	Water Mains Laying Works	837224.8	822821.0	5.0	13.7	68.56	59.9	0.5	53	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_53	Area	Water Mains Laying Works	837235.8	822830.7	5.0	13.7	68.56	64.0	0.5	58	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_54	Area	Water Mains Laying Works	837248.2	822838.1	5.0	13.7	68.56	64.0	0.5	58	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_55	Area	Water Mains Laying Works	837260.4	822845.2	5.0	13.7	68.56	64.0	0.5	58	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_56	Area	Water Mains Laying Works	837273.1	822852.3	5.0	13.7	68.56	54.9	0.5	74	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_57	Area	Water Mains Laying Works	837285.7	822855.4	5.0	13.7	68.56	54.9	0.5	74	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_58	Area	Water Mains Laying Works	837299.3	822858.7	5.0	13.7	68.56	54.9	0.5	74	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_59	Area	Water Mains Laying Works	837312.8	822861.9	5.0	13.7	68.56	54.9	0.5	74	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07

**Appendix 3.4 Dust Emission Inventory of Concurrent Project**

**Emission Source Listing in AERMOD**  
DHSRs Construction Dust Emission Sources

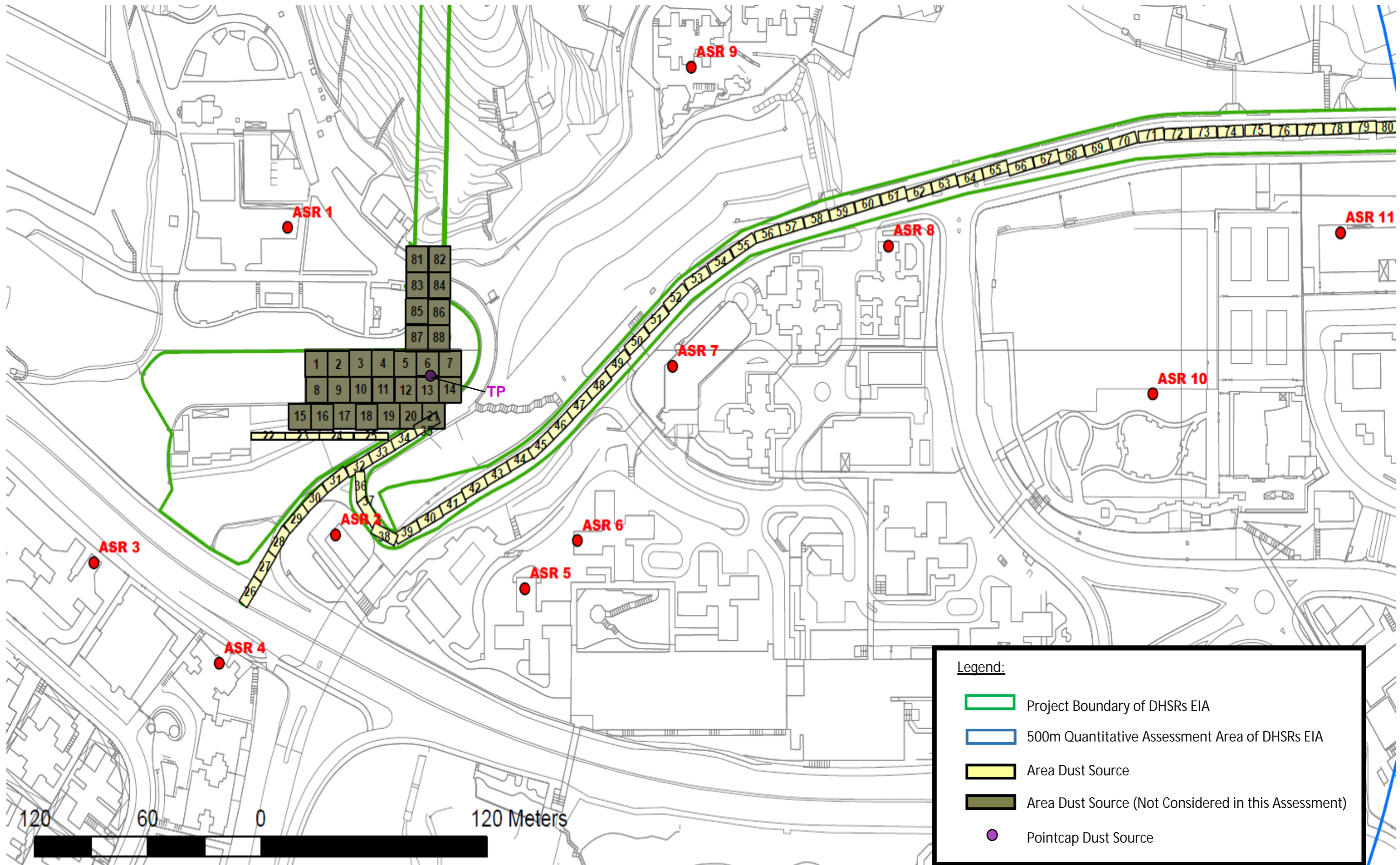
ID	Type	Construction Works	Coordinates		Length		Area (m <sup>2</sup> )	Base Height (m)	Release Height (m)	Angle (degree)	Working Hour Duration	Working Hour Mitigated			Non-Working Hour Mitigated		
			X1	Y1	X2	Y2						TSP	RSP	FSP	TSP	RSP	FSP
												(g/m <sup>2</sup> /s)	(g/m <sup>2</sup> /s)	(g/m <sup>2</sup> /s)	(g/m <sup>2</sup> /s)	(g/m <sup>2</sup> /s)	(g/m <sup>2</sup> /s)
AREA_60	Area	Water Mains Laying Works	837326.4	822865.5	5.0	13.7	68.56	54.9	0.5	74	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_61	Area	Water Mains Laying Works	837340.1	822868.9	5.0	13.7	68.56	54.9	0.5	74	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_62	Area	Water Mains Laying Works	837353.7	822870.8	5.0	13.7	68.56	51.8	0.5	74	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_63	Area	Water Mains Laying Works	837367.0	822874.4	5.0	13.7	68.56	51.8	0.5	74	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_64	Area	Water Mains Laying Works	837380.8	822876.9	5.0	13.7	68.56	52.1	0.5	74	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_65	Area	Water Mains Laying Works	837394.1	822880.5	5.0	13.7	68.56	52.1	0.5	74	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_66	Area	Water Mains Laying Works	837407.7	822882.0	5.0	13.7	68.56	53.5	0.5	74	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_67	Area	Water Mains Laying Works	837421.2	822885.4	5.0	13.7	68.56	53.5	0.5	74	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_68	Area	Water Mains Laying Works	837434.5	822887.3	5.0	13.7	68.56	53.5	0.5	74	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_69	Area	Water Mains Laying Works	837448.3	822890.3	5.0	13.7	68.56	55.0	0.5	74	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_70	Area	Water Mains Laying Works	837462.5	822893.2	5.0	13.7	68.56	55.0	0.5	74	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_71	Area	Water Mains Laying Works	837477.1	822896.8	5.0	13.7	68.56	55.0	0.5	82	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_72	Area	Water Mains Laying Works	837491.0	822898.0	5.0	13.7	68.56	55.0	0.5	87	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_73	Area	Water Mains Laying Works	837505.2	822898.6	5.0	13.7	68.56	55.0	0.5	87	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_74	Area	Water Mains Laying Works	837519.4	822899.0	5.0	13.7	68.56	56.5	0.5	87	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_75	Area	Water Mains Laying Works	837533.8	822899.6	5.0	13.7	68.56	56.9	0.5	87	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_76	Area	Water Mains Laying Works	837547.8	822899.4	5.0	13.7	68.56	56.9	0.5	87	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_77	Area	Water Mains Laying Works	837561.7	822899.9	5.0	13.7	68.56	57.6	0.5	87	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_78	Area	Water Mains Laying Works	837575.9	822900.3	5.0	13.7	68.56	57.6	0.5	87	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_79	Area	Water Mains Laying Works	837590.1	822900.9	5.0	13.7	68.56	57.6	0.5	87	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07
AREA_80	Area	Water Mains Laying Works	837603.6	822900.9	5.0	13.7	68.56	57.6	0.5	87	12 (0700-1900)	1.7228E-05	8.1487E-06	1.2404E-06	2.6953E-06	1.2749E-06	1.9406E-07

ID	Description	Type	Coordinates		Base Elevation (m)	Release Height * (m)	Exit Temp (K)	Stack Diameter (m)	Exit Velocity (m/s)	Gas Exit Flow Rate (m <sup>3</sup> /s)	Duration (hours)	TSP	Mitigated RSP	FSP
			X	Y								(g/s)	(g/s)	(g/s)
TP	Tunnel Portal (total works include blasting)	Point (CAPPED)	837094.8	822795.8	75.7	15	Ambient	1.6926	3	6.7502	12 (0700-1900)	8.9998E-02	3.1681E-02	2.7215E-03
	Tunnel Portal (total works exclude blasting)											12 (1900-0700)	6.3593E-02	1.7950E-02

Remarks:

The tunnel portal emission (total works include blasting) is adopted for 0700-1900 on Monday to Sunday as worst-case scenario.  
 The emission inventory is adopted directly from the EIA report of Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Caverns (EIA-271/2021).

Appendix 3.4 Dust Emission Inventory of Concurrent Project



Remarks:  
 Area dust sources ID#1-21 refer to site formation works of portal which will be completed by Year 2022, while area dust sources ID#81-88 refer to construction of tunnel which will be completed by Year 2024  
 Lion Rock Tunnel construction will commence in Year 2025. Hence, no concurrent works are expected and the dust sources are not considered in the modelling assessment.