

Appendix 3.2

Justification for the Percentage of Active Works Areas and Dust Suppression Efficiency

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Calculation of Watering Efficiency

With reference to Cowherd et al., “Control of Open Fugitive Dust Sources, EPA-450/3-88-008, U.S. Environmental Protection Agency, Research Triangle Park, NC, percentage of dust mitigation efficiency is calculated from Equation (3-2) :

$$C = 100 - \frac{0.8 p d t}{i}$$

where

- p = Potential average hourly daytime evaporation rate, mm/hour = 0.25916 [1]
d = Average hourly daytime traffic rate per hour = 66 per hour [2]
I = Application intensity = 1.7 L/m² [3]

Note:

- [1] p = 0.0049 x 52.8898 inch, where 52.8898inch is equivalent to the total evaporation of 1343.4mm obtained from Hong Kong Observatory (http://www.weather.gov.hk/cis/normal/1971_2000/normals_e.htm)
- [2] The material to be transported in year 2025 in FLN is the most in the whole NDA development.
- | | |
|--|---------------------------|
| The total material to be transport in year 2025 in FLN (A) | 794,942 m ³ |
| Total working area (B): | 875,464 sq.m |
| Average material to be transport per unit working area (C) = (A) / (B) | 0.91 m ³ /sq.m |
| Area of largest site in 2025 (WC22) (D) | 370,120 sq.m |
| The total material to be transport in year 2025 under WC22 (E) = (C) x (D) | 336,078 m ³ |
| Trip generation (2 ways) | 65.3 veh/hr |
| (F) = (E) / 5.5 / 12 / 26 / 6 * 2 | |
- Assumptions:
1. Assume the construction traffic is generated between 10am and 4pm (6hours)
 2. Assume 26 working days per month
 3. Assume 5.5m³ per truck
- [3] The assumptions provided are for the purpose of assessment predictions only. Actual figures would be defined in the detailed design stage.

By applying the Equation (3-2) with the above assumptions,

Dust suppression efficiency = $100 - 0.8 \times (0.25916 \times 66 \times t) / 1.7$ [t = time between application, hr]

Therefore,

For watering once per hour (i.e. t=1 hour), the estimated dust suppression efficiency is 92.1%.

1) Yearly Estimate - 2018

Works Area = 514,093 m²
 (total area of works contract WC03a, WC03b, WC04a, WC04b1, WC04b2, WC09a, WC09b, WC09c, WC21b, WC31a and WC33b in air quality assessment)

Activity 1 - Site Formation and Construction of Roadworks, Associated Infrastructure and Open Spaces at KTN and FLN (Work Contract WC03a)

From:	01-Sep-18	To:	31-Dec-18	Duration:	4	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Excavator	70	10			400	2800
Concrete Mixer Truck	30	10			400	1200
Generator	100	10			400	4000
Asphalt Paver	50	10			400	2000
Roller	50	10			400	2000
Total:						12000
Activity 1						Percentage of Usage Area to Works Area: 2.3%
						Percentage of Yearly Usage: 0.8%

Activity 2 - Site Formation and Construction of Roadworks, Associated Infrastructure and Open Spaces at KTN and FLN (Work Contract WC03b)

From:	01-Sep-18	To:	31-Dec-18	Duration:	4	month
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Excavator	70	6			400	1680
Concrete Mixer Truck	30	6			400	720
Generator	100	6			400	2400
Asphalt Paver	50	6			400	1200
Roller	50	6			400	1200
Total:						7200
Activity 2						Percentage of Usage Area to Works Area: 1.4%
						Percentage of Yearly Usage: 0.5%

Activity 3 - Advance Site Formation and Engineering Infrastructure at KTN (Work Contract WC04a)

From:	01-Mar-18	To:	31-Dec-18	Duration:	10	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	70	5			400	1400
Generator	100	5			400	2000
Bulldozer	50	5			400	1000
Dump Truck	70	5			400	1400
Roller	50	5			400	1000
Total:						6800.000
Activity 3						Percentage of Usage Area to Works Area: 1.3%
						Percentage of Yearly Usage: 1.1%

Activity 4 - Advance Site Formation and Engineering Infrastructure at KTN (Work Contract WC04b1)

From:	01-Mar-18	To:	31-Aug-18	Duration:	6	month
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	90	10			200	1800
Generator	100	5			200	1000
Bulldozer	50	3			200	300
Dump Truck	70	6			200	840
Roller	50	6			200	600
Total:						4540
Activity 4						Percentage of Usage Area to Works Area: 0.9%
						Percentage of Yearly Usage: 0.4%

NDA EIA
Kwu Tung North - Active Construction Area Estimate

1) Yearly Estimate - 2018

Works Area = 514,093 m²
 (total area of works contract WC03a, WC03b, WC04a, WC04b1, WC04b2, WC09a, WC09b, WC09c, WC21b, WC31a and WC33b in air quality assessment)

Activity 5 - Advance Site Formation and Engineering Infrastructure at KTN (Work Contract WC04b2)

From:	01-Sep-18	To:	31-Dec-18	Duration:	4	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	90	10			200	1800
Generator	100	5			200	1000
Bulldozer	50	3			200	300
Dump Truck	70	6			200	840
Roller	50	6			200	600
Total:						4540
Activity 5						Percentage of Usage Area to Works Area: 0.9%
						Percentage of Yearly Usage: 0.3%

Activity 6 - Site Formation and Construction for Secondary Service Reservoir, Associated Trunk Mains and Distribution Mains at KTN (Work Contract WC04b2)

From:	01-Jan-18	To:	31-Jul-18	Duration:	7	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	100	2			400	800
Generator	100	2			400	800
Roller	50	2			400	400
Dump Truck	70	2			400	560
Total:						2560
Activity 6						Percentage of Usage Area to Works Area: 0.5%
						Percentage of Yearly Usage: 0.3%

Activity 7 - Site Formation and Construction for Secondary Service Reservoir, Associated Trunk Mains and Distribution Mains at KTN (Work Contract WC04b2)

From:	01-Jan-18	To:	31-Jul-18	Duration:	7	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Excavator	70	4			400	1120
Concrete Mixer Truck	30	4			400	480
Generator	100	4			400	1600
Asphalt Paver	50	4			400	800
Roller	50	4			400	800
Total:						4800
Activity 7						Percentage of Usage Area to Works Area: 0.9%
						Percentage of Yearly Usage: 0.5%

Activity 8 - Site Formation and Construction for Secondary Service Reservoir, Associated Trunk Mains and Distribution Mains at KTN (Work Contract WC04b2)

From:	01-Jan-18	To:	31-Jul-18	Duration:	7	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Excavator	70	4			400	1120
Concrete Mixer Truck	30	4			400	480
Generator	100	4			400	1600
Asphalt Paver	50	4			400	800
Roller	50	4			400	800
Total:						4800
Activity 8						Percentage of Usage Area to Works Area: 0.9%
						Percentage of Yearly Usage: 0.5%

1) Yearly Estimate - 2018

Works Area = 514,093 m²
 (total area of works contract WC03a, WC03b, WC04a, WC04b1, WC04b2, WC09a, WC09b, WC09c, WC21b, WC31a and WC33b in air quality assessment)

Activity 9 - Site Formation and Construction for HKPF's Sites at KTN (Reprovisioning of Fan Garden Junior Police Officer's Police Married Quarters as well as District Headquarter Associated Married Staff Quarters) (Work Contract WC21b)

From:	01-Jan-18	To:	31-Dec-18	Duration:	12	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	100	1			400	400
Generator	100	1			400	400
Roller	50	1			400	200
Dump Truck	70	1			400	280
Total:						1280
Activity 9						Percentage of Usage Area to Works Area: 0.2%
						Percentage of Yearly Usage: 0.2%

Activity 10 - Site Formation and Construction for Plant for District Cooling System at KTN (Work Contract WC31a)

From:	01-Mar-18	To:	31-Dec-18	Duration:	10	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	100	7			200	1400
Generator	100	4			200	800
Roller	50	5			200	500
Dump Truck	70	5			200	700
Total:						3400
Activity 10						Percentage of Usage Area to Works Area: 0.7%
						Percentage of Yearly Usage: 0.6%

Activity 11 - Stockpiling Area (Work Contract WC33b)

From:	01-Mar-18	To:	31-Dec-18	Duration:	10	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	70	2			400	560
Generator	100	2			400	800
Bulldozer	50	2			400	400
Dump Truck	70	2			400	560
Roller	50	2			400	400
Total:						2720
Activity 11						Percentage of Usage Area to Works Area: 0.5%
						Percentage of Yearly Usage: 0.4%

Combined Percentage for Activities		5.260%
		<6%, OK

Note:

- All plant that would generate dust emissions during their operation (e.g. excavator) have been included in estimating the active work areas.
- Since the plants do not normally operate continuously throughout the 12-hour working period, an adjustment by "Percentage of Usage (%)" was adopted for each plant/activity to reflect its estimated hours of operation on a typical working day.
- The actual dust emission area for each plant/activity was estimated and given as "Area", by taking account the maximum area of dust emissions which could be created by the plant/activity at any time instant.
- The actual dust emission area for each hour, which is given as "Area in term of Time of Usage" was estimated by taking account the "Percentage of Usage (%)" of each plant/activity. (i.e. Area in term of Time of Usage (m²) = Area (m²) x Percentage of Usage (%))
- "Percentage of Usage Area to Works Area" means the percentage of total actual active area for each plant/activity over the total Works area (i.e. Percentage of Usage Area to Works Area (%) = Total Area in term of Time of Usage for each plant/activity (m²) / Total Works Area (m²))
- "Percentage of Yearly Usage" means the percentage of duration of each plant/activity over the year (12 months) (i.e. Percentage of Yearly Usage (%) = Percentage of Usage Area to Works Area for each plant/activity (%) x Duration (months) / 12 (months))
- Justification provided above are for the purpose of assessment predictions only. Actual figures would be defined during detailed design stage.

1) Yearly Estimate - 2025

Works Area = 1,331,230 m²

(total area of works contract WC10a, WC11a, WC11b1, WC11b2, WC12a1, WC12b2, WC12b3, WC12b4, WC12c, WC12d, WC21a, WC26 in air quality assessment)

Activity 1 - Site Formation at Fanling Highway Widening, Kwu Tung Interchange and Pak Shek Au Interchange (Work Contract WC10a)

From:	01-Aug-25	To:	31-Dec-25	Duration:	5	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	70	9			400	2520
Generator	100	9			400	3600
Bulldozer	50	9			400	1800
Dump Truck	70	9			400	2520
Total:						10440
Activity 1						Percentage of Usage Area to Works Area: 0.8%
						Percentage of Yearly Usage: 0.3%

Activity 2 - Site Formation and Engineering Infrastructure at KTN (South) (Work Contract WC11a)

From:	01-Jan-25	To:	31-Dec-25	Duration:	12	month
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	70	14			400	3920
Generator	100	14			400	5600
Bulldozer	50	14			400	2800
Dump Truck	70	14			400	3920
Total:						16240
Activity 2						Percentage of Usage Area to Works Area: 1.2%
						Percentage of Yearly Usage: 1.2%

Activity 3 - Site Formation and Engineering Infrastructure at KTN (South) (Work Contract WC11b1)

From:	01-Aug-25	To:	31-Dec-25	Duration:	5	month
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	70	10			400	2800
Generator	100	10			400	4000
Bulldozer	50	10			400	2000
Dump Truck	70	10			400	2800
Total:						11600
Activity 3						Percentage of Usage Area to Works Area: 0.9%
						Percentage of Yearly Usage: 0.4%

Activity 4 - Site Formation and Engineering Infrastructure at KTN (South) (Work Contract WC11b2)

From:	01-Aug-25	To:	31-Oct-25	Duration:	3	month
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	70	1			400	280
Generator	100	1			400	400
Bulldozer	50	1			400	200
Dump Truck	70	1			400	280
Total:						1160
Activity 4						Percentage of Usage Area to Works Area: 0.1%
						Percentage of Yearly Usage: 0.0%

Activity 5 - Site Formation and Engineering Infrastructure at KTN (North) (Work Contract WC12a)

From:	01-Jan-25	To:	31-Dec-25	Duration:	12	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	70	11			400	3080
Generator	100	11			400	4400
Bulldozer	50	11			400	2200
Dump Truck	70	11			400	3080
Total:						12760
Activity 5						Percentage of Usage Area to Works Area: 1.0%
						Percentage of Yearly Usage: 1.0%

1) Yearly Estimate - 2025

Works Area = 1,331,230 m²
 (total area of works contract WC10a, WC11a, WC11b1, WC11b2, WC12a1, WC12b2, WC12b3, WC12b4, WC12c, WC12d, WC21a, WC26 in air quality assessment)

Activity 6 - Site Formation and Engineering Infrastructure at KTN (North) (Work Contract WC12b2)

From:	01-Jan-25	To:	31-Jan-25	Duration:	1	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	70	4			200	560
Generator	100	2			200	400
Bulldozer	50	3			200	300
Dump Truck	70	3			200	420
Total:						1680
Activity 6						Percentage of Usage Area to Works Area: 0.1%
						Percentage of Yearly Usage: 0.0%

Activity 7 - Site Formation and Engineering Infrastructure at KTN (North) (Work Contract WC12b3)

From:	01-Feb-25	To:	31-Oct-25	Duration:	9	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	70	7			200	980
Generator	100	4			200	800
Bulldozer	50	5			200	500
Dump Truck	70	5			200	700
Total:						2980
Activity 7						Percentage of Usage Area to Works Area: 0.2%
						Percentage of Yearly Usage: 0.2%

Activity 8 - Site Formation and Engineering Infrastructure at KTN (North) (Work Contract WC12b4)

From:	01-Nov-25	To:	31-Dec-25	Duration:	2	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	70	7			200	980
Generator	100	4			200	800
Bulldozer	50	5			200	500
Dump Truck	70	5			200	700
Total:						2980
Activity 8						Percentage of Usage Area to Works Area: 0.2%
						Percentage of Yearly Usage: 0.0%

Activity 9 - Site Formation and Engineering Infrastructure at KTN (North) (Work Contract WC12c)

From:	01-Apr-25	To:	31-Dec-25	Duration:	9	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	70	13			400	3640
Generator	100	13			400	5200
Bulldozer	50	13			400	2600
Dump Truck	70	13			400	3640
Total:						15080
Activity 9						Percentage of Usage Area to Works Area: 1.1%
						Percentage of Yearly Usage: 0.9%

1) Yearly Estimate - 2025

Works Area = 1,331,230 m²
(total area of works contract WC10a, WC11a, WC11b1, WC11b2, WC12a1, WC12b2, WC12b3, WC12b4, WC12c, WC12d, WC21a, WC26 in air quality assessment)

Activity 10 - Site Formation and Engineering Infrastructure at KTN (North) (Work Contract WC12d)

From:	01-Dec-25	To:	31-Dec-25	Duration:	1	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	70	13			400	3640
Generator	100	13			400	5200
Bulldozer	50	13			400	2600
Dump Truck	70	13			400	3640
Total:						15080
Activity 10						Percentage of Usage Area to Works Area: 1.1%
						Percentage of Yearly Usage: 0.1%

Activity 11 - Site Formation for HKPF's Sites at KTN and FLN (Work Contract WC21a)

From:	01-Jan-25	To:	31-Dec-25	Duration:	12	month
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	70	4			400	1120
Generator	100	2			400	800
Bulldozer	50	3			400	600
Dump Truck	70	3			400	840
Total:						3360
Activity 11						Percentage of Usage Area to Works Area: 0.3%
						Percentage of Yearly Usage: 0.3%

Activity 12 - Site Formation for Trunk Mains from Ngau Tam Mei Primary Service Reservoir to Existing and Proposed FWSR and Pumping Station (Work Contract WC26)

From:	01-Jan-25	To:	31-Dec-25	Duration:	12	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Excavator	70	10			400	2800
Concrete Mixer Truck	30	10			400	1200
Generator	100	10			400	4000
Asphalt Paver	50	10			400	2000
Roller	50	10			400	2000
Total:						12000
Activity 12						Percentage of Usage Area to Works Area: 0.9%
						Percentage of Yearly Usage: 0.9%

Combined Percentage for Activities	5.199%
	<6%, OK

Note:

- All plant that would generate dust emissions during their operation (e.g. excavator) have been included in estimating the active work areas.
- Since the plants do not normally operate continuously throughout the 12-hour working period, an adjustment by "Percentage of Usage (%)" was adopted for each plant/activity to reflect its estimated hours of operation on a typical working day.
- The actual dust emission area for each plant/activity was estimated and given as "Area", by taking account the maximum area of dust emissions which could be created by the plant/activity at any time instant.
- The actual dust emission area for each hour, which is given as "Area in term of Time of Usage" was estimated by taking account the "Percentage of Usage (%)" of each plant/activity. (i.e. Area in term of Time of Usage (m²) = Area (m²) x Percentage of Usage (%))
- "Percentage of Usage Area to Works Area" means the percentage of total actual active area for each plant/activity over the total Works area (i.e. Percentage of Usage Area to Works Area (%) = Total Area in term of Time of Usage for each plant/activity (m²) / Total Works Area (m²))
- "Percentage of Yearly Usage" means the percentage of duration of each plant/activity over the year (12 months) (i.e. Percentage of Yearly Usage (%) = Percentage of Usage Area to Works Area for each plant/activity (%) x Duration (months) / 12 (months))
- Justification provided above are for the purpose of assessment predictions only. Actual figures would be defined during detailed design stage.

NDA EIA
Kwu Tung North - Active Construction Area Estimate

1) Yearly Estimate - 2028

Works Area = 700,800 m²

(total area of works contract WC10b, WC10c, WC11b, WC12d, WC26a in air quality assessment)

Activity 1 - Site Formation at Fanling Highway Widening, Kwu Tung Interchange and Pak Shek Au Interchange (Work Contract WC10b)

From:	01-Jan-28	To:	31-Mar-28	Duration:	3	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	70	4			400	1120
Generator	100	4			400	1600
Bulldozer	50	4			400	800
Dump Truck	70	4			400	1120
Total:						4640.000
Activity 1						Percentage of Usage Area to Works Area: 0.7%
						Percentage of Yearly Usage: 0.2%

Activity 2 - Site Formation at Fanling Highway Widening, Kwu Tung Interchange and Pak Shek Au Interchange (Work Contract WC10c)

From:	01-Apr-28	To:	31-Dec-28	Duration:	9	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	70	8			400	2240
Generator	100	8			400	3200
Bulldozer	50	8			400	1600
Dump Truck	70	8			400	2240
Total:						9280.000
Activity 2						Percentage of Usage Area to Works Area: 1.3%
						Percentage of Yearly Usage: 1.0%

Activity 3 - Site Formation and Engineering Infrastructure at KTN (South) (Work Contract WC11b)

From:	01-Jan-28	To:	31-Jan-28	Duration:	1	month
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	70	10			400	
Generator	100	10			400	
Bulldozer	50	10			400	
Dump Truck	70	10			400	
Total:						0
Activity 3						Percentage of Usage Area to Works Area: 0.0%
						Percentage of Yearly Usage: 0.0%

Activity 4 - Site Formation and Engineering Infrastructure at KTN (North) (Work Contract WC12d)

From:	01-Jan-28	To:	31-Jan-28	Duration:	1	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	70	12			400	3360
Generator	100	12			400	4800
Bulldozer	50	12			400	2400
Dump Truck	70	12			400	3360
Total:						13920.000
Activity 4						Percentage of Usage Area to Works Area: 2.0%
						Percentage of Yearly Usage: 0.2%

NDA EIA
Kwu Tung North - Active Construction Area Estimate

1) Yearly Estimate - 2028

Works Area = 700,800 m²

(total area of works contract WC10b, WC10c, WC11b, WC12d, WC26a in air quality assessment)

Activity 5 - Site Formation for Trunk Mains from Ngau Tam Mei Primary Service Reservoir to Existing and Proposed FWSR and Pumping Station (Work Contract WC26)

From:	01-Jan-28	To:	31-Jan-28	Duration:	1	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Excavator	70	10			400	2800
Concrete Mixer Truck	30	10			400	1200
Generator	100	10			400	4000
Asphalt Paver	50	10			400	2000
Roller	50	10			400	2000
Total:						12000
Activity 5						Percentage of Usage Area to Works Area:
						Percentage of Yearly Usage:

Combined Percentage for Activities	1.473% <6%, OK
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Note:

1. All plant that would generate dust emissions during their operation (e.g. excavator) have been included in estimating the active work areas.
2. Since the plants do not normally operate continuously throughout the 12-hour working period, an adjustment by "Percentage of Usage (%)" was adopted for each plant/activity to reflect its estimated hours of operation on a typical working day.
3. The actual dust emission area for each plant/activity was estimated and given as "Area", by taking account the maximum area of dust emissions which could be created by the plant/activity at any time instant.
4. The actual dust emission area for each hour, which is given as "Area in term of Time of Usage" was estimated by taking account the "Percentage of Usage (%)" of each plant/activity. (i.e. Area in term of Time of Usage (m²) = Area (m²) x Percentage of Usage (%))
5. "Percentage of Usage Area to Works Area" means the percentage of total actual active area for each plant/activity over the total Works area (i.e. Percentage of Usage Area to Works Area (%) = Total Area in term of Time of Usage for each plant/activity (m²) / Total Works Area (m²))
6. "Percentage of Yearly Usage" means the percentage of duration of each plant/activity over the year (12 months) (i.e. Percentage of Yearly Usage (%) = Percentage of Usage Area to Works Area for each plant/activity (%) x Duration (months) / 12 (months))
7. Justification provided above are for the purpose of assessment predictions only. Actual figures would be defined during detailed design stage.

FLN NDA
Fanling North - Active Construction Area Estimate

1) Yearly Estimate - 2018

Works Area = 65,200 m²
 (total area of works contract WC07a, WC19a, WC21c in air quality assessment)

Activity 1 - Site Formation and Construction for AFCD's Sites at FLN (Reprovisioning of North District Temporary Wholesale Market)

(Work Contract WC07a)

From:	01-Jan-18	To:	30-Apr-18	Duration:	4	month
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	70	2			400	560
Generator	50	2			400	400
Roller	50	2			400	400
Dump Truck	70	2			400	560
Total:						1920
Activity 1						Percentage of Usage Area to Works Area: 2.9%
						Percentage of Yearly Usage: 1.0%

Activity 2 - Site Formation and Construction for Site for Lots subject to VRT in FLN (Works Contract WC19a)

From:	01-Jan-18	To:	31-Jan-18	Duration:	1	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	70	1			400	280
Generator	50	1			200	100
Bulldozer	50	1			400	200
Dump Truck	70	2			400	560
Total:						1140.000
Activity 2						Percentage of Usage Area to Works Area: 1.7%
						Percentage of Yearly Usage: 0.1%

Activity 3 - Site Formation and Construction for HKPF's Sites at FLN (Reprovisioning of Police Driving and Traffic Complex and Weapon Training Division) (Works Contract WC21c)

From:	01-Jul-18	To:	31-Dec-18	Duration:	6	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	70	3			400	840
Generator	70	3			400	840
Bulldozer	50	3			400	600
Dump Truck	70	6			400	1680
Total:						3960
Activity 3						Percentage of Usage Area to Works Area: 6.1%
						Percentage of Yearly Usage: 3.1%

Combined Percentage for Activities	4.167% <6%, OK
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Note:

- All plant that would generate dust emissions during their operation (e.g. excavator) have been included in estimating the active work areas.
- Since the plants do not normally operate continuously throughout the 12-hour working period, an adjustment by "Percentage of Usage (%)" was adopted for each plant/activity to reflect its estimated hours of operation on a typical working day.
- The actual dust emission area for each plant/activity was estimated and given as "Area", by taking account the maximum area of dust emissions which could be created by the plant/activity at any time instant.
- The actual dust emission area for each hour, which is given as "Area in term of Time of Usage" was estimated by taking account the "Percentage of Usage (%)" of each plant/activity. (i.e. Area in term of Time of Usage (m²) = Area (m²) x Percentage of Usage (%))
- "Percentage of Usage Area to Works Area" means the percentage of total actual active area for each plant/activity over the total Works area (i.e. Percentage of Usage Area to Works Area (%) = Total Area in term of Time of Usage for each plant/activity (m²) / Total Works Area (m²))
- "Percentage of Yearly Usage" means the percentage of duration of each plant/activity over the year (12 months) (i.e. Percentage of Yearly Usage (%) = Percentage of Usage Area to Works Area for each plant/activity (%) x Duration (months) / 12 (months))
- Justification provided above are for the purpose of assessment predictions only. Actual figures would be defined during detailed design stage.

FLN NDA
Fanling North - Active Construction Area Estimate

1) Yearly Estimate - 2021

Works Area = 698,472 m²
 (total area of works contract WC03d, WC03e, WC03f, WC06a, WC06b, WC06c, WC07b, WC07c, WC07d, WC08a, WC13a, WC13b, WC13c, WC28a, WC28b, WC33c, WC33d in air quality assessment)

Activity 1 - Site Formation and Construction for Roadworks, Associated Infrastructure and Open Spaces at KTN and FLN (Work Contract WC03d)

From:	01-Jan-21	To:	31-Dec-21	Duration:	12	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Excavator	70	11			200	1540
Concrete Mixer Truck	30	11			200	660
Generator	50	11			100	550
Asphalt Paver	30	11			200	660
Roller	30	11			200	660
Total:						4070.000
Activity 1						Percentage of Usage Area to Works Area: 0.6%
						Percentage of Yearly Usage: 0.6%

Activity 2 - Site Formation and Construction for Roadworks, Associated Infrastructure and Open Spaces at KTN and FLN (Work Contract WC03e)

From:	01-Jan-21	To:	31-Dec-21	Duration:	12	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Excavator	70	6			200	840
Concrete Mixer Truck	30	6			200	360
Generator	50	6			100	300
Asphalt Paver	30	6			200	360
Roller	30	6			200	360
Total:						2220.000
Activity 2						Percentage of Usage Area to Works Area: 0.3%
						Percentage of Yearly Usage: 0.3%

Activity 3 - Site Formation and Construction for Roadworks, Associated Infrastructure and Open Spaces at KTN and FLN (Work Contract WC03f)

From:	01-Jan-21	To:	31-Dec-21	Duration:	12	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Excavator	70	4			200	560
Concrete Mixer Truck	30	4			200	240
Generator	50	4			100	200
Asphalt Paver	30	4			200	240
Roller	30	4			200	240
Total:						1480.000
Activity 3						Percentage of Usage Area to Works Area: 0.2%
						Percentage of Yearly Usage: 0.2%

Activity 4 - Site Formation and Construction for Advance Site Formation and Engineering Infrastructure at FLN (Work Contract WC06a)

From:	01-Jan-21	To:	31-Aug-21	Duration:	8	month
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Excavator	70	6			400	1680
Concrete Mixer Truck	30	6			400	720
Generator	50	6			200	600
Asphalt Paver	30	3			400	360
Roller	50	3			400	600
Bulldozer	50	6			400	1200
Dump Truck	50	6			400	1200
Total:						3960
Activity 4						Percentage of Usage Area to Works Area: 0.6%
						Percentage of Yearly Usage: 0.4%

FLN NDA
Fanling North - Active Construction Area Estimate

1) Yearly Estimate - 2021

Works Area = 698,472 m²
 (total area of works contract WC03d, WC03e, WC03f, WC06a, WC06b, WC06c, WC07b, WC07c, WC07d, WC08a, WC13a, WC13b, WC13c, WC28a, WC28b, WC33c, WC33d in air quality assessment)

Activity 5 - Site Formation and Construction for Advance Site Formation and Engineering Infrastructure at FLN (Work Contract WC06b)

From:	01-Jan-21	To:	31-Dec-21	Duration:	12	month
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of
			B (m)	L (m)	Area(m ²)	Time of Usage (m ²)
Excavator	70	1			400	280
Concrete Mixer Truck	30	1			400	120
Generator	50	1			200	100
Asphalt Paver	30	1			400	60
Roller	50	1			400	100
Bulldozer	50	1			400	200
Dump Truck	50	1			400	200
Total:						1060
Activity 5						Percentage of Usage Area to Works Area: 0.2%
						Percentage of Yearly Usage: 0.2%

Activity 6 - Site Formation and Construction for Advance Site Formation and Engineering Infrastructure at FLN (Work Contract WC06c)

From:	01-Mar-21	To:	31-Dec-21	Duration:	10	month
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of
			B (m)	L (m)	Area(m ²)	Time of Usage (m ²)
Excavator	70	5			400	1400
Concrete Mixer Truck	30	5			400	600
Generator	50	5			400	1000
Asphalt Paver	30	5			400	600
Roller	50	5			400	1000
Total:						4600
Activity 6						Percentage of Usage Area to Works Area: 0.7%
						Percentage of Yearly Usage: 0.6%

Activity 7 - Site Formation and Construction for Advance Fanling Bypass (Eastern Section) (Connection between Sha Tau Kok Road and Fanling Highway) (Work Contract WC07b)

From:	01-Jan-21	To:	31-Dec-21	Duration:	12	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of
			B (m)	L (m)	Area(m ²)	Time of Usage (m ²)
Piling, Large Bored Pile	50	2			200	200
Excavator	50	5			200	500
Dump Truck	70	5			200	700
Air compressor	50	5			200	500
Generator	50	5			200	500
Water pump	50	5			200	500
Bulldozer	50	5			200	500
Total:						3400.000
Activity 7						Percentage of Usage Area to Works Area: 0.5%
						Percentage of Yearly Usage: 0.5%

Activity 8 - Site Formation and Construction for Advance Fanling Bypass (Eastern Section) (Connection between Sha Tau Kok Road and Fanling Highway) (Work Contract WC07c)

From:	01-Jan-21	To:	31-Aug-21	Duration:	8	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of
			B (m)	L (m)	Area(m ²)	Time of Usage (m ²)
Piling, Large Bored Pile	70	12			200	1680
Excavator	50	6			200	600
Dump Truck	70	6			200	840
Air compressor	50	6			200	600
Generator	50	6			200	600
Water pump	50	6			200	600
Total:						4920.000
Activity 8						Percentage of Usage Area to Works Area: 0.7%
						Percentage of Yearly Usage: 0.5%

FLN NDA
Fanling North - Active Construction Area Estimate

1) Yearly Estimate - 2021

Works Area = 698,472 m²
 (total area of works contract WC03d, WC03e, WC03f, WC06a, WC06b, WC06c, WC07b, WC07c, WC07d, WC08a, WC13a, WC13b, WC13c, WC28a, WC28b, WC33c, WC33d in air quality assessment)

Activity 9 - Site Formation and Construction for Advance Fanling Bypass (Eastern Section) (Connection between Sha Tau Kok Road and Fanling Highway) (Work Contract WC07d)

From:	01-Sep-21	To:	31-Dec-21	Duration:	4	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Piling, Large Bored Pile	70	18			200	2520
Excavator	50	9			200	900
Dump Truck	70	9			200	1260
Air compressor	50	9			200	900
Generator	50	9			200	900
Water pump	50	9			200	900
Total:						7380.000
Activity 9						Percentage of Usage Area to Works Area: 1.1%
						Percentage of Yearly Usage: 0.4%

Activity 10 - Site Formation and Construction for Phase 1B STW Extension at FLN (Work Contract WC08a)

From:	01-Jan-21	To:	31-Dec-21	Duration:	12	month
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	50	2			400	400
Generator	50	2			200	200
Roller	50	2			400	400
Dump Truck	50	2			400	400
Total:						1400
Activity 10						Percentage of Usage Area to Works Area: 0.2%
						Percentage of Yearly Usage: 0.2%

Activity 11 - Secondary Services Reservoir, Associated Trunk Mains and Distribution Mains at FLN (Works Contract WC13a)

From:	01-Feb-21	To:	31-Dec-21	Duration:	11	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	70	2			400	560
Generator	50	2			200	200
Roller	50	2			400	400
Dump Truck	70	2			400	560
Total:						1720
Activity 11						Percentage of Usage Area to Works Area: 0.2%
						Percentage of Yearly Usage: 0.2%

Activity 12 - Secondary Services Reservoir, Associated Trunk Mains and Distribution Mains at FLN (Works Contract WC13b)

From:	01-Feb-21	To:	31-Dec-21	Duration:	11	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	70	2			400	560
Generator	50	2			200	200
Roller	50	2			400	400
Dump Truck	70	2			400	560
Total:						1720
Activity 12						Percentage of Usage Area to Works Area: 0.2%
						Percentage of Yearly Usage: 0.2%

FLN NDA
Fanling North - Active Construction Area Estimate
1) Yearly Estimate - 2021

Works Area = 698,472 m²
 (total area of works contract WC03d, WC03e, WC03f, WC06a, WC06b, WC06c, WC07b, WC07c, WC07d, WC08a, WC13a, WC13b, WC13c, WC28a, WC28b, WC33c, WC33d in air quality assessment)

Activity 13 - Secondary Services Reservoir, Associated Trunk Mains and Distribution Mains at FLN (Works Contract WC13c)

From:	01-Feb-21	To:	31-Dec-21	Duration:	11	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Excavator	70	1			400	280
Concrete Mixer Truck	30	1			400	120
Generator	50	1			400	200
Asphalt Paver	30	1			400	120
Roller	30	1			400	120
Total:						840
Activity 13						Percentage of Usage Area to Works Area: 0.1%
						Percentage of Yearly Usage: 0.1%

Activity 14 - Site Formation and Construction for Fanling Bypass (Eastern Section) (Connection between Sha Tau Kok Road and Wu Nga Lok Yeu (Work Contract WC28a))

From:	01-Jan-21	To:	31-Aug-21	Duration:	8	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Piling, Large Bored Pile	70	6			200	840
Excavator	50	3			400	600
Dump Truck	70	3			400	840
Air compressor	50	3			200	300
Generator	50	3			200	300
Water pump	50	3			200	300
Total:						3180
Activity 14						Percentage of Usage Area to Works Area: 0.5%
						Percentage of Yearly Usage: 0.3%

Activity 15 - Site Formation and Construction for Fanling Bypass (Eastern Section) (Connection between Sha Tau Kok Road and Wu Nga Lok Yeu (Work Contract WC28b))

From:	01-Sep-21	To:	31-Dec-21	Duration:	4	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Piling, Large Bored Pile	70	6			200	840
Excavator	50	3			400	600
Dump Truck	70	3			400	840
Air compressor	50	3			200	300
Generator	50	3			200	300
Water pump	50	3			200	300
Total:						3180
Activity 15						Percentage of Usage Area to Works Area: 0.5%
						Percentage of Yearly Usage: 0.2%

Activity 16 - Stockpiling Area (Work Contract WC33c)

From:	01-Jan-21	To:	31-Dec-21	Duration:	12	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	70	2			400	560
Generator	50	2			200	200
Roller	50	2			400	400
Dump Truck	70	2			400	560
Total:						1720
Activity 16						Percentage of Usage Area to Works Area: 0.2%
						Percentage of Yearly Usage: 0.2%

FLN NDA
Fanling North - Active Construction Area Estimate

1) Yearly Estimate - 2021

Works Area = 698,472 m²
 (total area of works contract WC03d, WC03e, WC03f, WC06a, WC06b, WC06c, WC07b, WC07c, WC07d, WC08a, WC13a, WC13b, WC13c, WC28a, WC28b, WC33c, WC33d in air quality assessment)

Activity 17 - Stockpiling Area (Work Contract WC33d)

From:	01-Jan-21	To:	31-Dec-21	Duration:	12	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of
			B (m)	L (m)	Area(m ²)	Time of Usage (m ²)
Backhoe	70	2			400	560
Generator	50	2			200	200
Roller	50	2			400	400
Dump Truck	70	2			400	560
Total:						1720
Activity 17						Percentage of Usage Area to Works Area: 0.2%
						Percentage of Yearly Usage: 0.2%

Combined Percentage for Activities	5.197%
	<6%, OK

Note:

- All plant that would generate dust emissions during their operation (e.g. excavator) have been included in estimating the active work areas.
- Since the plants do not normally operate continuously throughout the 12-hour working period, an adjustment by "Percentage of Usage (%)" was adopted for each plant/activity to reflect its estimated hours of operation on a typical working day.
- The actual dust emission area for each plant/activity was estimated and given as "Area", by taking account the maximum area of dust emissions which could be created by the plant/activity at any time instant.
- The actual dust emission area for each hour, which is given as "Area in term of Time of Usage" was estimated by taking account the "Percentage of Usage (%)" of each plant/activity. (i.e. Area in term of Time of Usage (m²) = Area (m²) x Percentage of Usage (%))
- "Percentage of Usage Area to Works Area" means the percentage of total actual active area for each plant/activity over the total Works area (i.e. Percentage of Usage Area to Works Area (%) = Total Area in term of Time of Usage for each plant/activity (m²) / Total Works Area (m²))
- "Percentage of Yearly Usage" means the percentage of duration of each plant/activity over the year (12 months) (i.e. Percentage of Yearly Usage (%) = Percentage of Usage Area to Works Area for each plant/activity (%) x Duration (months) / 12 (months))
- Justification provided above are for the purpose of assessment predictions only. Actual figures would be defined during detailed design stage.

FLN NDA
Fanling North - Active Construction Area Estimate

1) Yearly Estimate - 2025

Works Area = 864,174 m²
 (total area of works contract WC14a, WC14b, WC14c, WC14d, WC14e, WC15a, WC15b, WC15c, WC22a, WC22b, WC22c in air quality assessment)

Activity 1 - Site Formation and Construction for Fanling Bypass (Western Section) (Connection between Man Kam To Road and Sha Tau Kok Road and Po Shek Wu Interchange Improvement (Works Contract WC14a)

From:	01-Aug-25	To:	31-Dec-25	Duration:	5	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Piling, Large Bored Pile	100	8			200	1600
Excavator	50	4			400	800
Dump Truck	70	4			400	1120
Air compressor	70	4			400	1120
Generator	70	4			400	1120
Water pump	70	4			400	1120
Total:						6880.000
Activity 1						Percentage of Usage Area to Works Area: 0.8%
						Percentage of Yearly Usage: 0.3%

Activity 2 - Site Formation and Construction for Fanling Bypass (Western Section) (Connection between Man Kam To Road and Sha Tau Kok Road and Po Shek Wu Interchange Improvement (Works Contract WC14b)

From:	01-Jan-25	To:	31-Dec-25	Duration:	12	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Piling, Large Bored Pile	100	8			200	1600
Excavator	50	4			400	800
Dump Truck	70	4			400	1120
Air compressor	70	4			400	1120
Generator	70	4			400	1120
Water pump	70	4			400	1120
Total:						6880.000
Activity 2						Percentage of Usage Area to Works Area: 0.8%
						Percentage of Yearly Usage: 0.8%

Activity 3 - Site Formation and Construction for Fanling Bypass (Western Section) (Connection between Man Kam To Road and Sha Tau Kok Road and Po Shek Wu Interchange Improvement (Works Contract WC14c)

From:	01-Aug-25	To:	31-Dec-25	Duration:	5	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Piling, Large Bored Pile	100	8			200	1600
Excavator	50	4			400	800
Dump Truck	70	4			400	1120
Air compressor	70	4			400	1120
Generator	70	4			400	1120
Water pump	70	4			400	1120
Total:						6880.000
Activity 3						Percentage of Usage Area to Works Area: 0.8%
						Percentage of Yearly Usage: 0.3%

Activity 4 - Site Formation and Construction for Fanling Bypass (Western Section) (Connection between Man Kam To Road and Sha Tau Kok Road and Po Shek Wu Interchange Improvement (Works Contract WC14d)

From:	01-Jan-25	To:	31-Dec-25	Duration:	12	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Piling, Large Bored Pile	100	8			200	1600
Excavator	50	4			400	800
Dump Truck	70	4			400	1120
Air compressor	70	4			400	1120
Generator	70	4			400	1120
Water pump	70	4			400	1120
Total:						6880.000
Activity 4						Percentage of Usage Area to Works Area: 0.8%
						Percentage of Yearly Usage: 0.8%

FLN NDA
Fanling North - Active Construction Area Estimate

1) Yearly Estimate - 2025

Works Area = 864,174 m²
 (total area of works contract WC14a, WC14b, WC14c, WC14d, WC14e, WC15a, WC15b, WC15c, WC22a, WC22b, WC22c in air quality assessment)

Activity 5 - Site Formation and Construction for Fanling Bypass (Western Section) (Connection between Man Kam To Road and Sha Tau Kok Road and Po Shek Wu Interchange Improvement (Works Contract WC14e)

From:	01-Jan-25	To:	31-Dec-25	Duration:	12	months
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Piling, Large Bored Pile	100	8			200	1600
Excavator	50	4			400	800
Dump Truck	70	4			400	1120
Air compressor	70	4			400	1120
Generator	70	4			400	1120
Water pump	70	4			400	1120
Total:						6880.000
Activity 5						Percentage of Usage Area to Works Area: 0.8%
						Percentage of Yearly Usage: 0.8%

Activity 6 - Site Formation and Construction for Remaining Site Formation and Engineering Infrastructure at FLN (East) (Works Contract WC15a)

From:	01-Jan-25	To:	31-Mar-25	Duration:	3	month
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	70	5			400	1400
Generator	100	5			400	2000
Bulldozer	50	5			400	1000
Dump Truck	70	10			400	2800
Total:						7200
Activity 6						Percentage of Usage Area to Works Area: 0.8%
						Percentage of Yearly Usage: 0.2%

Activity 7 - Site Formation and Construction for Remaining Site Formation and Engineering Infrastructure at FLN (East) (Works Contract WC15b)

From:	01-Apr-25	To:	30-Nov-25	Duration:	8	month
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	70	5			400	1400
Generator	100	5			400	2000
Bulldozer	50	5			400	1000
Dump Truck	70	10			400	2800
Total:						7200
Activity 7						Percentage of Usage Area to Works Area: 0.8%
						Percentage of Yearly Usage: 0.6%

Activity 8 - Site Formation and Construction for Remaining Site Formation and Engineering Infrastructure at FLN (East) (Works Contract WC15c)

From:	01-Dec-25	To:	31-Dec-25	Duration:	1	month
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	70	6			400	1680
Generator	100	6			400	2400
Bulldozer	50	6			400	1200
Dump Truck	70	12			400	3360
Total:						8640
Activity 8						Percentage of Usage Area to Works Area: 1.0%
						Percentage of Yearly Usage: 0.1%

Activity 9 - Site Formation and Construction for Remaining Site Formation and Engineering Infrastructure at FLN (West) (Works Contract WC22a)

From:	01-Jan-25	To:	31-Dec-25	Duration:	12	month
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of Time of Usage (m ²)
			B (m)	L (m)	Area(m ²)	
Backhoe	70	5			400	1400
Generator	100	5			400	2000
Bulldozer	50	5			400	1000
Dump Truck	70	10			400	2800
Total:						7200
Activity 9						Percentage of Usage Area to Works Area: 0.8%
						Percentage of Yearly Usage: 0.8%

FLN NDA
Fanling North - Active Construction Area Estimate

1) Yearly Estimate - 2025

Works Area = 864,174 m²
 (total area of works contract WC14a, WC14b, WC14c, WC14d, WC14e, WC15a, WC15b, WC15c, WC22a, WC22b, WC22c in air quality assessment)

Activity 10 - Site Formation and Construction for Remaining Site Formation and Engineering Infrastructure at FLN (West) (Works Contract WC22b)

From:	01-Feb-25	To:	30-Sep-25	Duration:	8	month
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of
			B (m)	L (m)	Area(m ²)	Time of Usage (m ²)
Backhoe	70	6			400	1680
Generator	100	6			400	2400
Bulldozer	50	6			400	1200
Dump Truck	70	12			400	3360
Total:						8640
Activity 10						Percentage of Usage Area to Works Area: 1.0%
						Percentage of Yearly Usage: 0.7%

Activity 11 - Site Formation and Construction for Remaining Site Formation and Engineering Infrastructure at FLN (West) (Works Contract WC22c)

From:	01-Oct-25	To:	31-Dec-25	Duration:	3	month
Plant	Percentage of Usage (%)	No.	Plan Size			Area in term of
			B (m)	L (m)	Area(m ²)	Time of Usage (m ²)
Backhoe	70	9			400	2520
Generator	100	9			400	3600
Bulldozer	50	9			400	1800
Dump Truck	70	18			400	5040
Total:						12960
Activity 11						Percentage of Usage Area to Works Area: 1.5%
						Percentage of Yearly Usage: 0.4%

Combined Percentage for Activities		5.761%
		<6%, OK

Note:

1. All plant that would generate dust emissions during their operation (e.g. excavator) have been included in estimating the active work areas.
2. Since the plants do not normally operate continuously throughout the 12-hour working period, an adjustment by "Percentage of Usage (%)" was adopted for each plant/activity to reflect its estimated hours of operation on a typical working day.
3. The actual dust emission area for each plant/activity was estimated and given as "Area", by taking account the maximum area of dust emissions which could be created by the plant/activity at any time instant.
4. The actual dust emission area for each hour, which is given as "Area in term of Time of Usage" was estimated by taking account the "Percentage of Usage (%)" of each plant/activity. (i.e. Area in term of Time of Usage (m²) = Area (m²) x Percentage of Usage (%))
5. "Percentage of Usage Area to Works Area" means the percentage of total actual active area for each plant/activity over the total Works area (i.e. Percentage of Usage Area to Works Area (%) = Total Area in term of Time of Usage for each plant/activity (m²) / Total Works Area (m²))
6. "Percentage of Yearly Usage" means the percentage of duration of each plant/activity over the year (12 months) (i.e. Percentage of Yearly Usage (%) = Percentage of Usage Area to Works Area for each plant/activity (%) x Duration (months) / 12 (months))
7. Justification provided above are for the purpose of assessment predictions only. Actual figures would be defined during detailed design stage.