Attachment 2
Replacement Pages,
Figures and
Appendix 2.2 of the
AQIA Report

2 THE PROPOSED DEVELOPMENT AND THE ENVIRONMENT

2.1 The Site

- 2.1.1 The Application Site (the "Site") is located in an industrial area in Kwai Chung, bordered by Wing Chong Street to the west, Wing Kin Road to the east, Global Trade Centre to the north, and Hou Feng Industrial Building to the south (see **Figure 2-1**). The Site and its surroundings fall within the industrial zone, as per the Approved Kwai Chung Outline Zoning Plan (OZP) No. S/KC/32 (see **Figure 2-2**).
- 2.1.2 The Site covers approximately 964 m² (about 929 m² excluding the additional area) and is currently occupied by a 2-storey industrial building. Planning applications have been submitted and approved with conditions in 2020 (Application No.: A/KC/457) and 2023 (Application No.: A/KC/496) for Offensive Trades use (Lard Boiling Factory) and Industrial use (Warehouse), respectively.

2.2 The Proposed Development

General

2.2.1 The Applicant proposes to redevelop the Application Site into a 17-storey data centre with a height of 109.55 mPD and a plot ratio of 11.4. The tentative layout of the proposed development is shown in **Appendix 2-1**, with a planned completion date of 2029.

Backup Generators

- 2.2.2 The proposed development is intended solely for data centre use and will operate exclusively on electricity supplied by CLP. Backup generators will be provided to address potential electricity outages or emergencies. No diesel or other fossil fuels will be utilized during the normal operation of the proposed development.
- 2.2.3 Under the current design, a total of 16 backup generators powered by diesel fuel will be installed by the tenant, consisting of 8 units with a capacity of 1,500 kW and 8 units with a capacity of 2,000 kW, resulting in a total capacity of 28,000 kW. No diesel or other fossil fuels will be utilized during the normal operation of the proposed development.
- 2.2.4 Routine testing of the backup generators will be conducted for 30 minutes each month, resulting in an annual operation time of 6 hours. Each backup generator will be tested sequentially to minimize emission rates.
- 2.2.5 All backup generators will be housed in fully enclosed spaces, with industrial chimneys serving as their only exhausts. It should be noted that the design of the chimneys is not available at this stage and is subject to detailed design.
- 2.2.6 According to the Electricity Works in Schedule 1 of the Air Pollution Control Ordinance, the installation of backup generators with a total capacity exceeding 5 MW requires a Specified Process (SP) license. The tenant should be reminded to prepare an air pollution control plan (APCP) for SP license application. The locations of the chimney exhausts, as well as the necessary mitigations, must be approved by the relevant authority (e.g., EPD) before the operation of the backup generators.
- 2.2.7 Therefore, the proposed development is not considered a source of air pollutants during normal operation. During routine testing, given the short operational duration of the backup

generators and the necessary mitigation measures to be confirmed in the APCP, adverse air quality impacts arising from the routine testing are not anticipated.

Air Sensitive Receivers (ASRs)

- 2.2.8 Although the data center is generally expected to be unmanned, a minimal number of staff will remain in the proposed development during its operation. For example, staff will occupy the management offices, which are not yet marked in the tentative layout plan. Additionally, staff will occasionally need to be present in the data halls for maintenance. Therefore, the management offices and data halls in the proposed development are considered as Air Sensitive Receivers (ASRs) during the operational phase.
- 2.2.9 On the other hand, the remaining areas in the proposed development, such as plant rooms, toilets, and staircase are either not normally occupied spaces¹ or unoccupied spaces², which are not considered as ASRs during the operational phase.
- 2.2.10 To ensure air quality in the management offices and data halls during operation, these areas are designed as confined spaces and will rely exclusively on fresh air intakes at suitable locations for ventilation. The potentially polluted air outside is not expected to enter the management offices and data halls.

2.3 Existing Environment in the Vicinity

Existing Developments

Industrial Chimneys

- 2.3.1 The existing developments in the vicinity are primarily industrial. On-site survey was conducted on 28th August 2025, to identify the industrial chimneys in the area. Multiple industrial chimneys have been identified within 200 meters of the site boundary. The chimneys with potential impacts are listed in **Table 2-1**, illustrated in **Figure 2-3**, and detailed in **Appendix 2-2**.
- 2.3.2 It is noted that a chimney-like structure was present on the roof of the Mei Kei Industrial Building according to a 3D map from Google. However, based on the site visit on 28th August 2025, there is currently no chimney on the roof of the Mei Kei Industrial Building.
- 2.3.3 Additionally, chimneys have been identified at the Citic Telecom Tower. According to the building footprint derived from the Digital Topographic Map iB1000 and site observations, all three identified chimneys are more than 200 meters away from the Site.

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[&]quot;Not normally occupied spaces" are enclosed areas within the building where people normally stay less than 1 hour.

"Unoccupied spaces" are areas within the building where the primary function is not intended for human activities. These spaces are occupied by occupants for a short period of time and only occasionally.

Table 2-1 Identified Industrial Chimneys in the Vicinity

ID	Building	Height	Horizontal Distance from Application Site Boundary
CH01a & CH01b	Wing Loi Industrial Building	85 mPD	64 m
CH01c & CH01d	Willig Loi ilidusulai Buildilig	81 mPD	85 m
CH02	Kwai Chung Crematorium	52 mPD	196 m
CH03a & CH03b	Wing Kin Industrial Building	99 mPD	23 m
СН03с	wing Kin maustrial Building	103 mPD	40 m
CH04a, CH04b & CH04c	Citic Telecom Tower	141 mPD	<mark>205 m</mark>

Note:

Chimneys' height and location were estimated from the building footprint derived from the Digital Topographic Map iB1000, measurements from Open3Dhk, and site observations.

Air Sensitive Receivers (ASRs)

- 2.3.4 The nearest non-industrial development with air-sensitive uses is the office of the Wing Hau Street Driving Test Centre, located approximately 110 m northwest of the Site.
- 2.3.5 Most developments with air-sensitive uses are situated in the northeast of the Site, including PCCW, CNEC Lee I Yao Memorial Secondary School, and Kwai Shing West Estate Block 8, located approximately 180 m, 195 m, and 290 m from the Site, respectively. However, as offices are typically present within industrial buildings, all nearby industrial buildings are also considered as Air Sensitive Receivers (ASRs).
- 2.3.6 The existing developments in the vicinity generally conform to the Outline Zoning Plan (OZP), indicating that no changes in land use are anticipated in the near future.

Road Traffic

2.3.7 The Site is bordered by Wing Kin Road and Wing Chong Street, which are minor roads (local distributors). According to the Annual Traffic Census 2023 (ATC 2023) by the Transport Department, the nearest major road is Tsuen Wan Road (Station 5604), an expressway located approximately 90 m to the northeast of the Site, with an Average Annual Daily Traffic (AADT) of 122,780.

2.4 Key Sources of Potential Air Quality Impact

- 2.4.1 According to the Hong Kong Planning Standards and Guidelines (HKPSG), areas designated for active or passive recreational uses should be located 5 to 20 m away from road traffic. Since only minor roads are within 20 meters from the site boundary, potential air quality impacts from nearby road traffic are expected to be limited.
- 2.4.2 Conversely, areas for active or passive recreational uses should be situated 10 to 200 m away from industrial chimneys. Given that multiple industrial chimneys are located within 200 m from the site boundary, the primary concern for the air quality of the proposed development arises from these nearby industrial chimneys.

4 BACKGROUND AIR QUALITY AND KEY CRITERIA POLLUTANTS

4.1 Background Air Quality

- 4.1.1 EPD has been closely monitoring air quality in Hong Kong through its air quality monitoring stations (AQMS). The Kwai Chung Monitoring Station is the closest AQMS to the Site, while the nearest roadside station is located in Mong Kok.
- 4.1.2 It is important to note that measurement results at the roadside station are generally higher than those at regular sensitive receivers, such as residential flats, due to proximity to road traffic. Therefore, measurements at the roadside station should be considered a worst-case scenario, while those at the Kwai Chung Monitoring Station should be regarded as representative.
- 4.1.3 The monitoring results for the Mong Kok Roadside Station and Kwai Chung Monitoring Station from 2019 to 2023 are summarized in **Table 4-1 & Table 4-2**, respectively. For both stations, the measured concentrations of NO₂ demonstrate a decreasing trend from 2019 to 2023. In contrast, the measured concentrations of RSP and FSPs dropped in 2020 and have remained at a similar level since then.
- 4.1.4 The parameters of particular concern during the past few years have been the NO₂ concentrations. The 1-hour averaged and annual averaged NO₂ have consistently exceeded the AQO's criteria from 2019 to 2023 and the 24-hour averaged NO₂ exceeded the AQO's criteria in 2019 & 2020 for the Mong Kok Roadside Station. The NO₂ concentrations at Kwai Chung Monitoring Station is much lower than that of Mong Kok Roadside Station, however, the annual average still consistently exceeded the AQO's criteria from 2019 to 2023.
- 4.1.5 With the updated AQO in 2025, the annual averaged FSP concentrations at the Mong Kok Roadside Station have also consistently exceeded the AQO's criteria from 2019 to 2023. Meanwhile, the 24-hour averaged FSP concentrations exceeded the AQO's criteria in 2019 and the annual averaged RSP concentrations exceeded the AQO's criteria in 2019 & 2021. The RSP and FSP concentrations at the Kwai Chung Monitoring Station are significantly lower than those at Mong Kok. However, the annual average FSP concentration exceeded the AQO's criteria in 2019, 2021 & 2023.

Average Concentrations of Pollutants in the Recent Five Years (Year 2019 -Table 4-1 2023) at Mong Kok Air Quality Monitoring Station

D. II. danid	2023) at wrong is				oncentration	(μg/m³) [ii]	
Pollutant	Averaging Time	AQO [i]	2019	2020	2021	2022	2023
Respirable Suspended	10th Highest 24-hour	75 (9)	74	63	69	56	58
Particulates (RSP)	Annual	30	35	29	30	26	29
Fine Suspended	19th Highest 24-hour	37.5 (18)	45	37	37	35	32
Particulates (FSP)	Annual	15	24	18	18	16	18
Nitrogen	19th Highest 1-hour	200 (18)	248	214	201	224	212
Dioxide (NO ₂)	10th Highest 24-hour	120 (9)	132	129	120	119	120
(- (- 2)	Annual	40	78	74	70	64	68
Sulphur Dioxide	4th Highest 10-Min	500 (3)	39	45	30	28	39
(SO ₂)	4th Highest 24-hour	40 (3)	10	10	10	7	9
Ozone (O ₃)	10th Highest 8-hour	160 (9)	125	96	97	101	104
	Peak season	100	62	61	60	63	61
Carbon	1st Highest 1-hour	30000 (0)	2280	1810	2130	1670	1340
Monoxide	1st Highest 8-hour	10000 (0)	2103	1580	1719	1493	1138
(CO)	1st Highest 24-hour	4000 (0)	1610	1323	1479	1414	1014

Note:

[i] [ii] [iii]

The numbers in brackets () refer to number of exceedance allowed per year. The pollution concentrations are obtained from the Smart Air Modelling Platform. Exceedances has been highlighted in orange.

Table 4-2 Average Concentrations of Pollutants in the Recent Five Years (Year 2019 - 2023) at Kwai Chung Air Quality Monitoring Stations

	2023) at Kwai C	Quality 1/10					
Pollutant	Avoraging Time	400 [8]		Pollutant C	oncentration	(μg/m³) [ii]	
ronutant	Averaging Time	AQO [i]	2019	2020	2021	2022	2023
Respirable Suspended	10th Highest 24-hour	75 (9)	59	46	56	53	54
Particulates (RSP)	Annual	30	29	23	26	23	25
Fine Suspended	19th Highest 24-hour	37.5 (18)	34	27	32	34	30
Particulates (FSP)	Annual	15	18	14	16	15	16
Nitrogen	19th Highest 1-hour	200 (18)	184	184	180	168	182
Dioxide (NO ₂)	10th Highest 24-hour	120 (9)	96	89	96	84	97
(= (= 2)	Annual	40	54	48	52	44	50
Sulphur Dioxide	4th Highest 10-Min	500 (3)	53	43	45	59	48
(SO ₂)	4th Highest 24-hour	40 (3)	18	12	14	17	13
Ozone (O ₃)	10th Highest 8-hour	160 (9)	143	124	124	139	128
	Peak season	100	84	77	74	79	75
Carbon Monoxide	1st Highest 1-hour	30000 (0)	-	-	-	-	-
	1st Highest 8-hour	10000 (0)	-	-	-	-	-
(CO)	1st Highest 24-hour	4000 (0)	-	-	-	-	-

Note:

[i] The numbers in brackets () refer to number of exceedance allowed per year.

[ii] The pollution concentrations are obtained from the Smart Air Modelling Platform.

[iii] Exceedances has been highlighted in orange.

4.2 PATH Background

- 4.2.1 PATH is a regional-scale air quality model developed by the EPD to predict future air quality of Hong Kong. The PATH v3.0 grids corresponding to the Site are [34,37] and [35,37], as shown in **Figure 4-1**. **Table 4-3** presents the predicted background air quality for the Site and its adjacent areas (Grids [34,37], [34,38], [35,37] and [35,38]) for the year 2029.
- 4.2.2 Generally, the PATH background for the Site and adjacent areas in 2029 meet the relevant Air Quality Objectives (AQOs) with a significant margin, except for Ozone concentrations.

Table 4-3 Background Ground Level Air Quality of PATH on Year 2029

	A	AQOs	PATH Model Concentration [µg/m³] on Year 2029				
Pollutant	Averaging Time	[μg/m³] [i]	Grid [34,37] L1 (0-17m)	Grid [34,38] L1 (0-17m)	Grid [35,37] L1 (0-17m)	Grid [35,38] L1 (0-17m)	
Respirable Suspended	10th Highest 24-hour	75 (9)	54.66	55.52	55.08	55.17	
Particulates (RSP)	Annual	30	20.94	21.25	21.08	21.31	
Fine Suspended Particulates	19th Highest 24-hour	37.5 (18)	31.77	32.97	32.79	33.02	
(FSP)	Annual	15	13.27	13.53	13.37	13.57	
Nitrogen Dioxide	19th Highest 1-hour	200 (18)	112.23	101.23	104.46	99.87	
(NO ₂)	10th Highest 24-hour	120 (9)	50.83	44.62	47.93	43.79	
	Annual	40	29.73	24.56	23.89	22.79	
Sulphur Dioxide (SO ₂)	4th Highest 10-Min	500 (3)	21.16	23.28	23.55	23.67	
(502)	4th Highest 24-hour	40 (3)	6.77	7.22	7.29	7.31	
Ozone (O ₃)	10th Highest 8-hour	160 (9)	173.04	176.03	172.17	172.9	
	Peak season	100	115.21	117.55	116.09	117.22	
	1st Highest 1-hour	30000 (0)	594.46	592.86	591.21	590.66	
Carbon Monoxide (CO)	1st Highest 8-hour	10000 (0)	571.48	571.02	564.19	565.06	
Notes	1st Highest 24-hour	4000 (0)	538.03	534.32	535.73	530.2	

Note:

4.3 Identification of Key Criteria Pollutants – Construction Phase

Gaseous Pollutants

- 4.3.1 Operation of Powered Mechanical Equipment (PME) and/or Non-road Mobile Machinery (NRMMs) during construction work would emit particulates and gaseous air pollutants such as nitrogen dioxide (NO₂) via fuel burning.
- 4.3.2 Emission of dark smoke is regulated by Air Pollution Control (Smoke) Regulations. By providing routine maintenance and using of ULSD, the potential impact can be significantly suppressed.
- 4.3.3 According to Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation, only approved or exempted Non-Road Mobile Machinery (NRMM) with a proper label are allowed to be used in specified activities and locations including construction sites. Supportive information and documents (e.g. third-party emission certificates, model and serial numbers of machines and engines, etc.) for each NRMM would be provided to EPD to prove that the concerned NRMM is in line with the prescribed emission standards.

[[]i] The numbers in brackets () refer to number of exceedances allowed per year.

[[]ii] The pollution concentrations are obtained from the Smart Air Modelling Platform.

[[]iii] Exceedance has been highlighted in orange.

4.3.4 As only limited number of PME and/or NRMMs are expected to be used on-site due to the small site area (<1000 m²), and the PME and/or NRMMs are required to fulfil the relevant emission standards. As a result, no significant impact is anticipated.

Particulates (RSP & FSP)

- 4.3.5 The air pollutants of concern during the construction phase are construction dust, which includes Respirable Suspended Particulates (RSP) and Fine Suspended Particulates (FSP) generated from the construction activities of the proposed development.
- 4.3.6 In accordance with the Air Pollution Control (Construction Dust) Regulation, contractors and site agents are obligated to inform the EPD and implement dust reduction measures to minimize dust emissions throughout construction phase, including demolition, site formation, foundation construction, and superstructure construction.

4.4 Identification of Key Criteria Pollutants – Operation Phase

Sulphur Dioxide (SO₂)

- 4.4.1 In Hong Kong, Sulphur Dioxide (SO₂) is primarily from the combustion of Sulphur-containing fossil fuels in power stations and marine vessels.
- 4.4.2 The Air Pollution Control (Fuel Restriction) Regulations restrict commercial and industrial processes to use ULSD with a sulphur content of only 0.001%. In December 2007, the Government offered a concessionary duty rate for Euro V diesel for motor vehicles which has a sulphur content of 0.001%. Since then, all petrol filling stations in Hong Kong provide only Euro V diesel, which has a sulphur content of 0.001%. Reference to the 2023 Hong Kong Emission Inventory Report³, SO₂ emission from the road traffic contribute less than 1% of the total SO₂ emissions, thus SO₂ from road traffic emissions is not considered as key air pollutant. On the other hand, although the SO₂ emission from the industrial sources contribute little to the total SO₂ emissions, due to the proximity, SO₂ emission from the industrial chimneys is considered as key air pollutant.

Particulates (RSP & FSP)

4.4.3 The emission source during the operational phase of the Project would be the vehicular emission on the roads and industrial emission from industrial chimneys.

Nitrogen Dioxide (NO₂)

- 4.4.4 NO₂ is the major air pollutant in concern during operation phase of the Project. NO₂ could be emitted directly via combustion, or generated from the reaction between nitrogen oxides (NO_x) and ozone (O₃).
- 4.4.5 The major emission source of NO_x and NO₂ during the operational phase of the Scheme would be the vehicular emission on the roads and industrial emission from industrial chimneys.

²⁰²³ Hong Kong Emission Inventory Report https://www.epd.gov.hk/epd/sites/default/files/epd/2023 Emission Inventory Report Eng final.pdf

Ozone

4.4.6 Ozone (O₃) is formed from dioxygen by the action of ultraviolet light and also atmospheric electrical discharges. It is not a primary pollutant emitted from vehicular emission & industrial emission thus is not considered as key criteria pollutants for the Project.

Carbon Monoxide

4.4.7 Road transportation is the dominant source of CO emissions. However, considering the low CO concentration measured in the roadside air quality monitoring station (**Table 4-1**) as compared to the respective AQO criteria, the emission of CO from road transportation is unlikely to cause a significant air quality impact to the proposed development.

Lead

4.4.8 Leaded petrol has been banned in Hong Kong since 1999. It is not considered concerned pollutants for vehicular emission.

Summary

4.4.9 During the operation phase, the primary sources of pollutants will be traffic and industrial emissions, specifically SO₂, NO₂, RSP and FSP. These pollutants have been identified as the key criteria pollutants for the project's operation.

5 CONSTRUCTION PHASE AIR QUALITY IMPACT ASSESSMENT

5.1 Dust Source of the Project

- 5.1.1 Major dust-emitting construction activities will include the demolition of existing structures, excavation for basement construction, foundation works, and other construction activities (e.g., superstructure construction). A summary of the construction works is provided in **Table 5-1**.
- 5.1.2 Due to the small site area (964.2 m²), the scale of construction activities for the Project will be limited. The Site currently houses a 2-storey industrial building, and the demolition works are considered minor, as only a single low-rise development is involved. It is important to note that excavation for the basement is required for the entire Site, with an excavation depth of ~10 meters. This is expected to generate ~9,642 m³ of inert C&D material (calculated as 964.2 m² x 10 m). The maximum number of Powered Mechanical Equipment (PME), including trucks, expected to be deployed at the worksite is 8, excluding small plants such as water pumps and fans.

Table 5-1 Summary of the Construction Works

Site Area (m²)	Structures to be demolished	Excavating for Basement	Construction of Superstructure	Number of Concurrent PME [1]
964.2	A 2-storey industrial building	Expected to generate ~9,642m³ of inert C&D material	Yes (17-storey)	8

Note:

5.2 Concurrent Projects

5.2.1 No planned and/or committed developments in the vicinity of the Site has been identified.

5.3 Air Sensitive Receivers in the Vicinity

5.3.1 The representative ASRs for the construction phase of the proposed development are illustrated in **Figure 5-1** and listed in **Table 5-2**. Although commercial, residential, and educational developments are located away from the Site, offices are typically present within industrial buildings. Therefore, the nearby industrial buildings are also considered ASRs.

Table 5-2 Representative Air Sensitive Receivers (Construction Phase)

ID	Building/Location	Туре	Building Height (mPD) [1]	Horizontal Distance from Application Site Boundary (m) ²
ASR01	Wing Hau Street Driving Test Centre	Office	25	110
ASR02	PCCW	Utility and Offices	<mark>79</mark>	180
ASR03	CNEC Lee I Yao Memorial Secondary School	Education	52	195
ASR04	Kwai Shing West Estate Block 8	Residential	127	<mark>290</mark>
ASR05	Hopewell Logistics Centre	Industrial	<mark>52</mark>	9

^[1] Excluding small plants such as water pump and fan. Estimated numbers based on projects in similar scales.

ID	Building/Location	Туре	Building Height (mPD) [1]	Horizontal Distance from Application Site Boundary (m) 2
ASR06	Aji Ichiban Centre	Industrial	<u>57</u>	<mark>9</mark>
ASR07	Global Trade Centre	Industrial	<mark>93</mark>	0 [note 2]
ASR08	8-12 Wing Kin Road	Industrial	<mark>20</mark>	<mark>16</mark>
ASR09	Wing Kin Industrial Building	Industrial	<mark>95</mark>	16
ASR10	Hou Feng Industrial Building	Industrial	<mark>87</mark>	0 [note 2]

Note:

[1] Extracted from Open3Dhk, rounded to integer.

[2] Estimated from the building footprint derived from the Digital Topographic Map iB1000.

The windows do not face the Site.

5.4 Identification of the Major Pollutant Sources and of Potential Impacts

Emission from PME & Non-road Mobile Machinery

- 5.4.1 As stated in **Section 4.3.1**, the operation of Powered Mechanical Equipment (PME) during construction work would emit gaseous air pollutants, such as nitrogen dioxide (NO₂), due to fuel combustion. Several types of Powered Mechanical Equipment, such as excavators, can be utilized for the construction works at the Site. However, the number of PME expected to be used on-site will be limited to a maximum of 8. As a result, no significant impact is anticipated from the operation of PME.
- 5.4.2 According to the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation, only approved or exempted Non-Road Mobile Machinery (NRMM) with proper labelling are allowed to be utilized in the construction site. Supportive information and documents, such as third-party emission certificates, model and serial numbers of machines and engines, will be provided to the EPD to demonstrate that the concerned NRMM complies with the prescribed emission standards. As a result, no significant impact is anticipated from the operation of NRMM.

Construction Dust

- 5.4.3 Fugitive dust will be generated during the construction phase, with the primary air pollutants of concern being Respirable Suspended Particulates (RSP) and Fine Suspended Particulates (FSP) resulting from the Project's construction activities. Sources of dust during construction phase include demolition, foundation and superstructure construction activities, as well as handling and transportation of temporary stockpiles, dusty material, excavated material and concrete production. Additionally, particulates emitted from plant equipment could pose a concern if not properly mitigated. The exposed earth after the completion of work may also serve as a potential dust source.
- 5.4.4 The major sources of dust during the construction phase of this Project will be the demolition of existing structures and the excavation for the basement. Despite the small scale of the works, mitigation measures will be necessary to minimize the potential impacts arising from these activities.
- 5.4.5 The movement of dump trucks is also considered a significant potential dust source if not properly mitigated. A rough estimate indicates that approximately 5 trips per day will be required during the demolition period, increasing to about 10 trips per day during the excavation period.

5.5 Mitigation Measures

- 5.5.1 Dust control measures under the Air Pollution Control (Construction Dust) Regulation (Cap. 311R) and good site practice shall be implemented to mitigate dust impact arising from construction works by preventing dust generation and/or by screening, suppressing and removing dust generated:
 - Enclose the whole wall of the building to a height of at least 1m higher than the highest level of the structure to be demolished with impervious dust screens or sheeting on façade abutting or fronting upon a street
 - Existing structures are proposed to be demolished by non-percussive equipment such as hydraulic crusher to reduce dust emission; no blasting will be involved.
 - Water or a dust suppression chemical shall be sprayed immediately prior to, during and immediately after demolition/excavation works
 - Cover stockpile or dusty materials with tarpaulin to prevent wind erosion
 - Any dusty materials remaining after a stockpile is removed shall be wetted with water and cleared from the surface of roads or streets
 - Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the construction site
 - Where a vehicle leaving a construction site is carrying a load of dusty materials, the load shall be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle
 - Store cement bags in shelter with 3 sides and the top covered by impervious materials if the stack exceeds 20 bags
 - Maintain a reasonable height when dropping excavated materials to limit dust generation
 - Limit vehicle speed within Site to 10 km/h and confine vehicle movement in haul road
 - Minimize exposed earth after completion of work in a certain area by hydroseeding, vegetating or soil compacting
 - Cover materials on trucks before leaving the Site to prevent dropping or being blown away by wind
 - Regular maintenance of plant equipment to prevent black smoke emission
 - Throttle down or switch off unused machines or machine in intermittent use
 - Plan the Site layout so that machineries, dust causing activities and stockpilings are away from receptors as far as possible.
 - Site hoarding higher than 2.4m should be implemented where there are receptors at close proximity to the construction site and dusty activities.
 - Haul road shall be away from the project boundary as much as possible
- 5.5.2 No adverse dust impact on the surrounding air sensitive receivers (ASRs) is expected with proper implementation of mitigation measures.
- 5.5.3 As the project is still in planning stage, the necessary of EM&A program shall be determined in detailed design stage.

6 OPERATION PHASE AIR QUALITY IMPACT ASSESSMENT

6.1 Operation of the Proposed Development

Potential Source of Air Quality Impact within the Proposed Development

- 6.1.1 The proposed development is intended solely for data centre use and will operate exclusively on electricity supplied by CLP.
- 6.1.2 As stated in **Sections 2.2**, 16 backup generators powered by diesel fuel, with a total capacity of 28,000 kW, will be installed. Routine testing of each backup generator will be conducted sequentially for 30 minutes each month, which may pose a potential source of air quality impact.
- 6.1.3 Since the backup generators and exhaust chimneys require a Specified Process license, it is expected that the potential impact will be mitigated to an acceptable level prior to the approval of the APCP and issuance of the license.
- 6.1.4 Therefore, the proposed development is not expected to induce adverse air quality impact during operation phase.

Air Sensitive Receivers (ASRs)

6.1.5 Based on the current tentative layout, only the management offices and data halls in the proposed development are considered ASRs, as stated in **Sections 2.2**. To ensure air quality in these areas during operation, they are designed as confined spaces and will rely exclusively on fresh air intakes for ventilation. The potentially polluted air from outside is not expected to enter the management offices and data halls. Therefore, it is necessary to identify suitable locations for the fresh air intakes.

6.2 Buffer Distance Recommended by HKPSG

- 6.2.1 The suggested buffer distances from the Hong Kong Planning Standards and Guidelines (HKPSG) outlined in **Table 3-1** shall be adhered to in order to avoid potential air quality impacts.
- 6.2.2 The adjoining Wing Kin Road and Wing Chong Street are classified as Local Distributors according to Transport Department (See **Appendix 6-1**), requiring a buffer distance of more than 5 m, as shown in **Figure 6-1**. Since the buffer zones for roads are independent of elevation, the fresh air intake for the data hall should be located outside these buffer regions, irrespective of elevation.
- 6.2.3 For the industrial chimneys in the vicinity, a buffer distance of 10 to 200 meters is required, depending on the elevation difference between the emission point and the receptor. A list of the chimneys in the vicinity is provided in **Table 6-1**.

Air Quality Impact Assessment

Table 6-1 List of Chimneys within 200m from Application Site Boundary

Chimney ID	Description	Height of chimney (mPD)	Horizontal Distance from application site boundary (m)	Horizontal Distance from building footprint (m)
CH01a CH01b	Wing Loi Industrial Building	85	64	67
CH01c CH01d		81	85	87
СН02	Kwai Chung Crematorium	52	196	198
CH03a CH03b	Wing Kin Industrial	99	23	31
СН03с	Building	103	40	49

Note: Chimneys' height and location were estimated from the building footprint derived from the Digital Topographic Map iB1000, measurements from Open3Dhk, and site observations. Please refer to Appendix 2-2 for details.

Table 6-2 Required Buffer Distance for Various Elevations

Table 6-2							
Assessed Elevation	Chimney ID	Industrial Chimney Exit above the Highest Assessed Elevation (m)	Required buffer distance (m)	The Proposed Development Completely Outside of Buffer Region (Y/N)	Corresponding Drawing		
	CH01a, CH01b	53	10	Y			
At or Below 32 mPD	CH01c, CH01d	49	10	Y			
	СН02	20	100	Y	Figure 6- <mark>2a</mark>		
	СН03а, СН03b	67	10	Y			
	СН03с	71	10	Y			
	CH01a, CH01b	34	50	Y			
Between 32 mPD and	CH01c, CH01d	30	50	Y			
51 mPD	СН02	1	200	N	Figure 6- <mark>2b</mark>		
	CH03a, CH03b	48	10	Y			
	СН03с	52	10	Y			
	CH01a, CH01b	30	50	Y			
Between 51 mPD and	CH01c, CH01d	26	100	N			
55 mPD	СН02	-3	200	N	Figure 6- <mark>2c</mark>		
	CH03a, CH03b	44	10	Y			
	СН03с	48	10	Y			
	CH01a, CH01b	26	100	N			
Between 55 mPD and	CH01c, CH01d	22	100	N			
59 mPD	CH02	-7	200	N	Figure 6- <mark>2d</mark>		
	СН03а, СН03b	40	10	Y			
	СН03с	44	10	Y			
	CH01a, CH01b	-24.55	200	N			
Between 59 mPD and	CH01c, CH01d	-28.55	200	N			
109.55 mPD	СН02	-57.55	200	N	Figure 6- <mark>2e</mark>		
mrD	СН03а, СН03b	-10.55	200	N			
	СН03с	-6.55	200	N			

- 6.2.4 The required buffer regions for the identified chimneys at different elevations are illustrated in **Figures 6-2a to 6-2e**. All industrial chimneys within 200 m from the application site boundary have been identified.
 - Below 32 mPD (Figure 6-2a)
 - The Site is not within the buffer region of any chimney; thus, the only constraint for fresh air intakes is from the nearby roads.
 - Between 32 mPD and 51 mPD (Figure 6-2b)
 - O A small portion of the Site at the southwest corner falls within the buffer region of the chimney at Kwai Chung Crematorium (CH02).
 - Between 51 mPD and 55 mPD (Figure 6-2c)
 - The southern portion of the Site is within the buffer region of the chimney at Wing Loi Industrial Building (CH01c).
 - Between 55 mPD and 59 mPD (Figure 6-2d)
 - Most of the Site is within the buffer region of the chimney at Wing Loi Industrial Building (CH01b).
 - Between 59 mPD and 109.55 mPD (**Figure 6-2e**)
 - The Site is entirely within the buffer regions of the nearby chimneys.

6.3 Suitable Locations for Fresh Air Intakes for Areas with Sensitive Uses

6.3.1 The floor and ceiling levels of the Proposed Development under the current design are summarised in **Table 6-3**.

Table 6-3 Floor and Ceiling Levels of the Proposed Development

Floor	Height (m)	Floor Level (mPD)	Ceiling Level (mPD)	Corresponding Drawing
G/F	11	9	20	Fig 6-3a
1/F	6	20	26	Fig 6-3b
2/F	6	26	32	Fig 6-3c
3/F	6	32	38	Fig 6-3d
4/F	5.5	38	43.5	Fig 6-3e
5/F	5.5	43.5	49	Fig 6-3e
6/F	5.5	49	54.5	Fig 6-3f
7/F	5.5	54.5	60	Fig 6-3g
8/F and above	5.5	-	-	-

Note:

6.3.2 The proposed façades for fresh air intakes are illustrated in **Figures 6-3a to 6-3g**. All industrial chimneys within 200 meters of the application site boundary have been identified. It should be noted that the ASRs of the proposed development, namely the management offices and data halls, are designed as confined spaces and will rely exclusively on fresh air intakes at suitable locations for ventilation, as mentioned in **Section 2.2.10**. The potentially polluted air outside is not expected to enter the management offices and data halls. If any additional ASRs are identified in the proposed development at a later stage, those areas should receive the same treatment as the management offices and data halls.

^[1] The design of the proposed development is subject to change.

- G/F to 2/F (9 to 32 mPD) (Figures 6-3a to 6-3c)
 - The entire eastern façade is suitable for fresh air intake.
 - The western façade is within the buffer region of Wing Chong Street.
- 3/F to 6/F (32 to 54.5 mPD) (**Figures 6-3d to 6-3f**)
 - o The entire eastern façade is suitable for fresh air intake.
 - A small portion of the western façade is outside the buffer region of Wing Chong Street and suitable for fresh air intake.
- 7/F (54.5 to 60 mPD) (**Figure 6-3g**)
 - At or above 59 mPD, the entire Site is within the buffer regions of the chimneys at Wing Loi Industrial Building (CH01b) and Wing Kin Industrial Building (CH03a).
 - Below 59mPD, only the northern half of the eastern façade is suitable for fresh air intake.
 - No suitable locations for fresh air intake at or above 59mPD.
- 8/F & above (> 60 mPD)
 - No suitable locations for fresh air intake.
- 6.3.3 Generally, the entire eastern façade from G/F to 7/F (up to 59 mPD) and a small portion of the western façade from 3/F to 6/F (32 to 54.5 mPD) are suitable for fresh air intake. However, no fresh air intake shall be provided at 8/F or above.
- 6.3.4 With the fresh air intakes for areas with air-sensitive uses positioned at the proposed locations, no adverse air quality impacts during the operation of the Project are anticipated.

6.4 Provision of Emergency Generators

- 6.4.1 A total of 16 backup generators powered by diesel fuel, with a combined capacity of 28,000 kW, will be installed by the tenant. Routine testing of each backup generator will be conducted sequentially for 30 minutes each month, which may pose a potential source of air quality impact.
- 6.4.2 Since the operation of the backup generators requires a SP license, the APCP for SP license application must be approved by the relevant authority (e.g., EPD). Given the short operational duration of the backup generators and the necessary mitigation measures to be confirmed in the APCP, adverse air quality impacts arising from the routine testing are not anticipated.

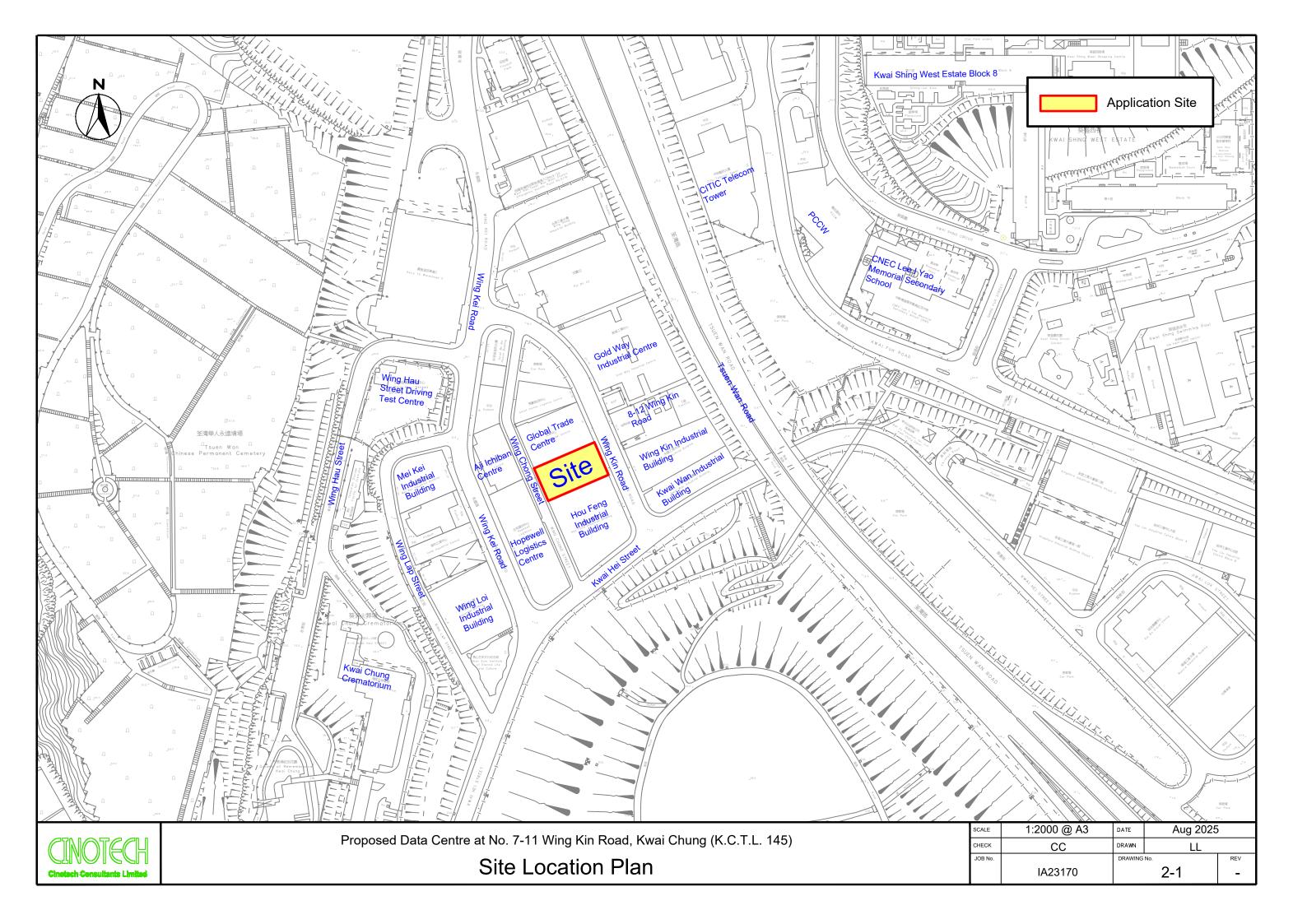
6.5 Provision of Basement Carparks

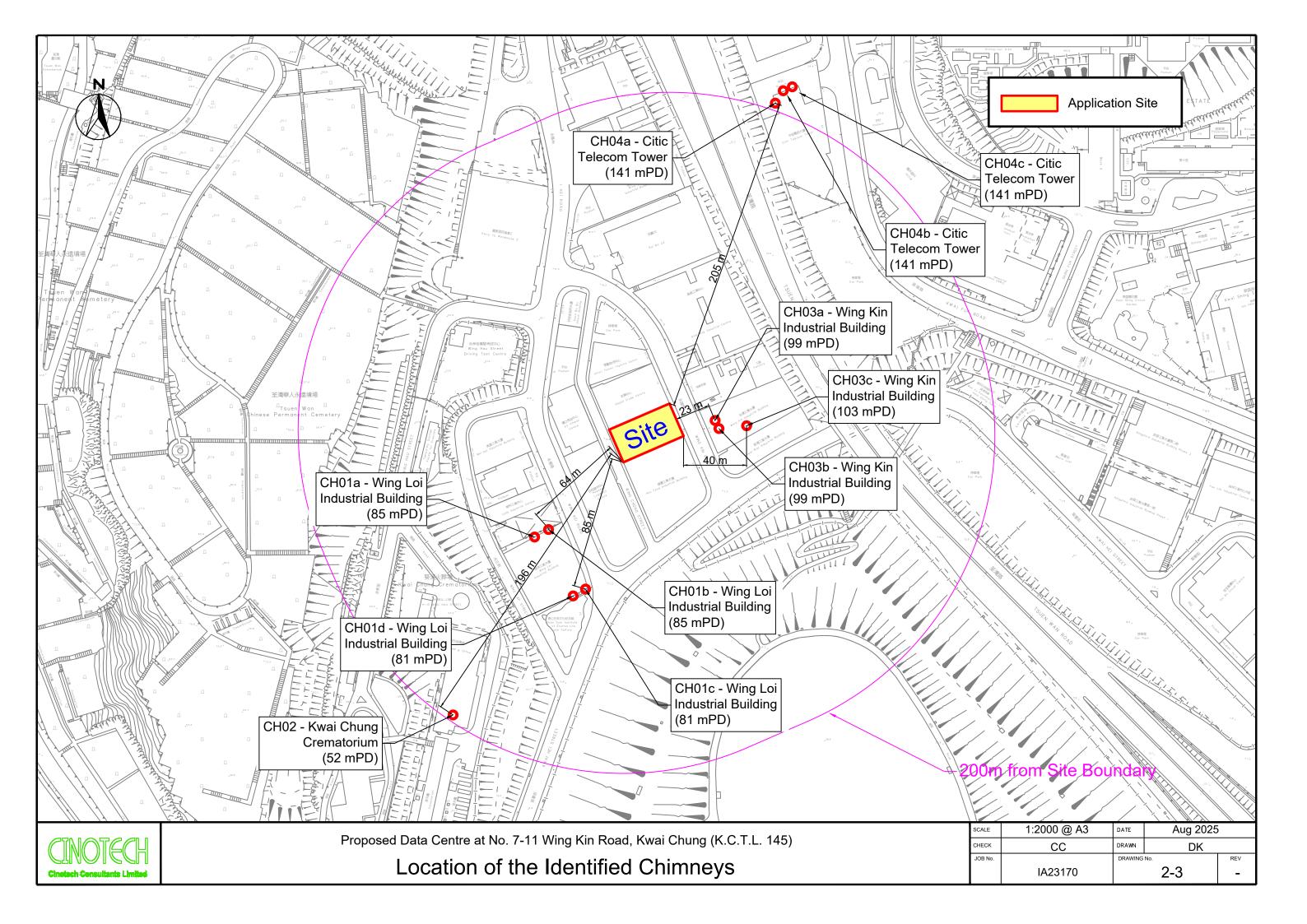
- 6.5.1 It should be noted that there are basement carparks in the Proposed Development. However, the details of the carparks including the locations of the exhaust outlet are not available.
- 6.5.2 The project team is reminded to fulfill the requirements, including design, maintenance and operation of the ventilation systems, as stipulated in ProPECC PN 2/96 Control of Air Pollution in Car Parks. In addition, the exhaust outlet for the basement carpark shall be located as far away as possible from nearby ASRs and/or fresh air intake to avoid causing any potential air pollutant nuisance.

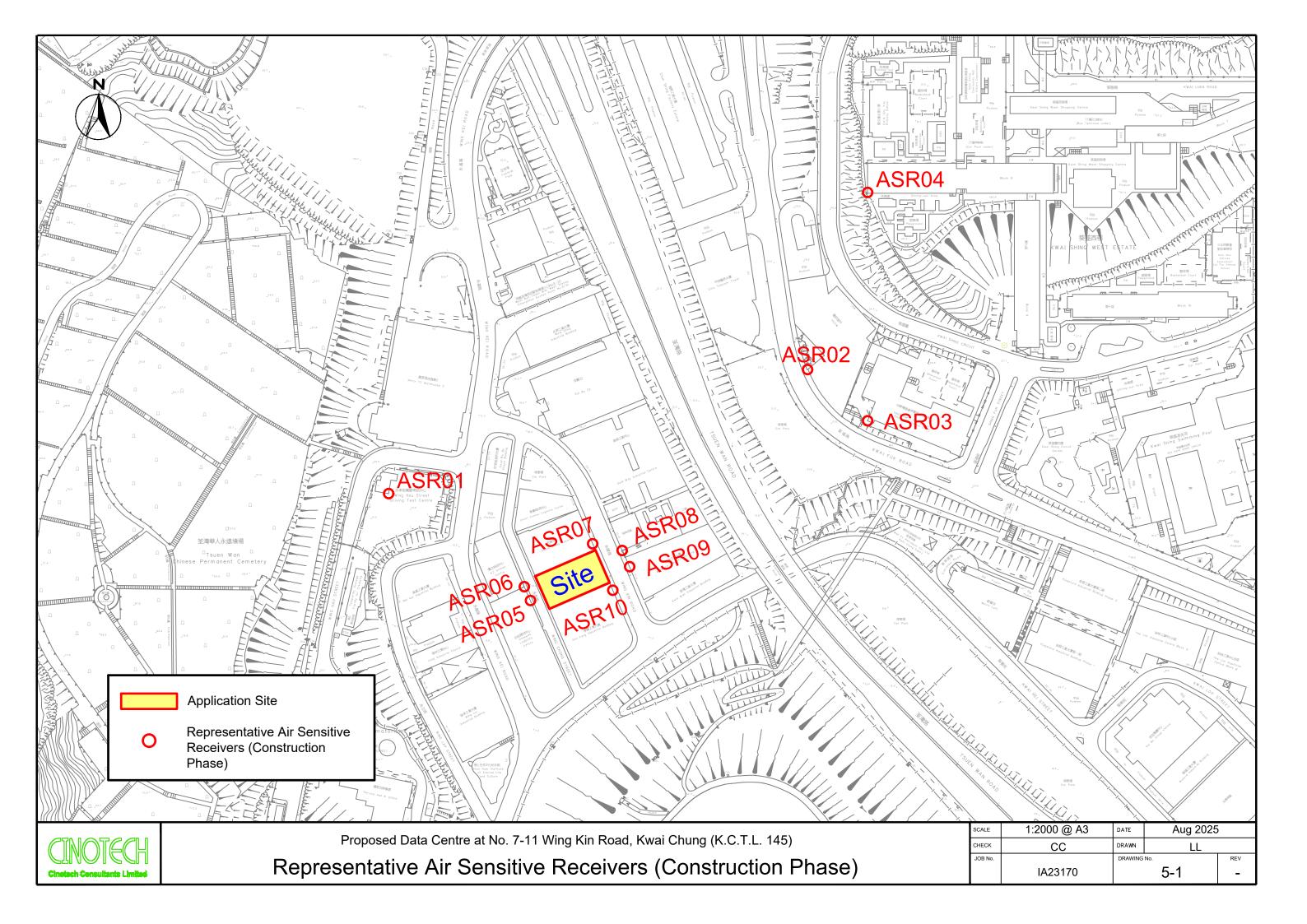
7 CONCLUSION

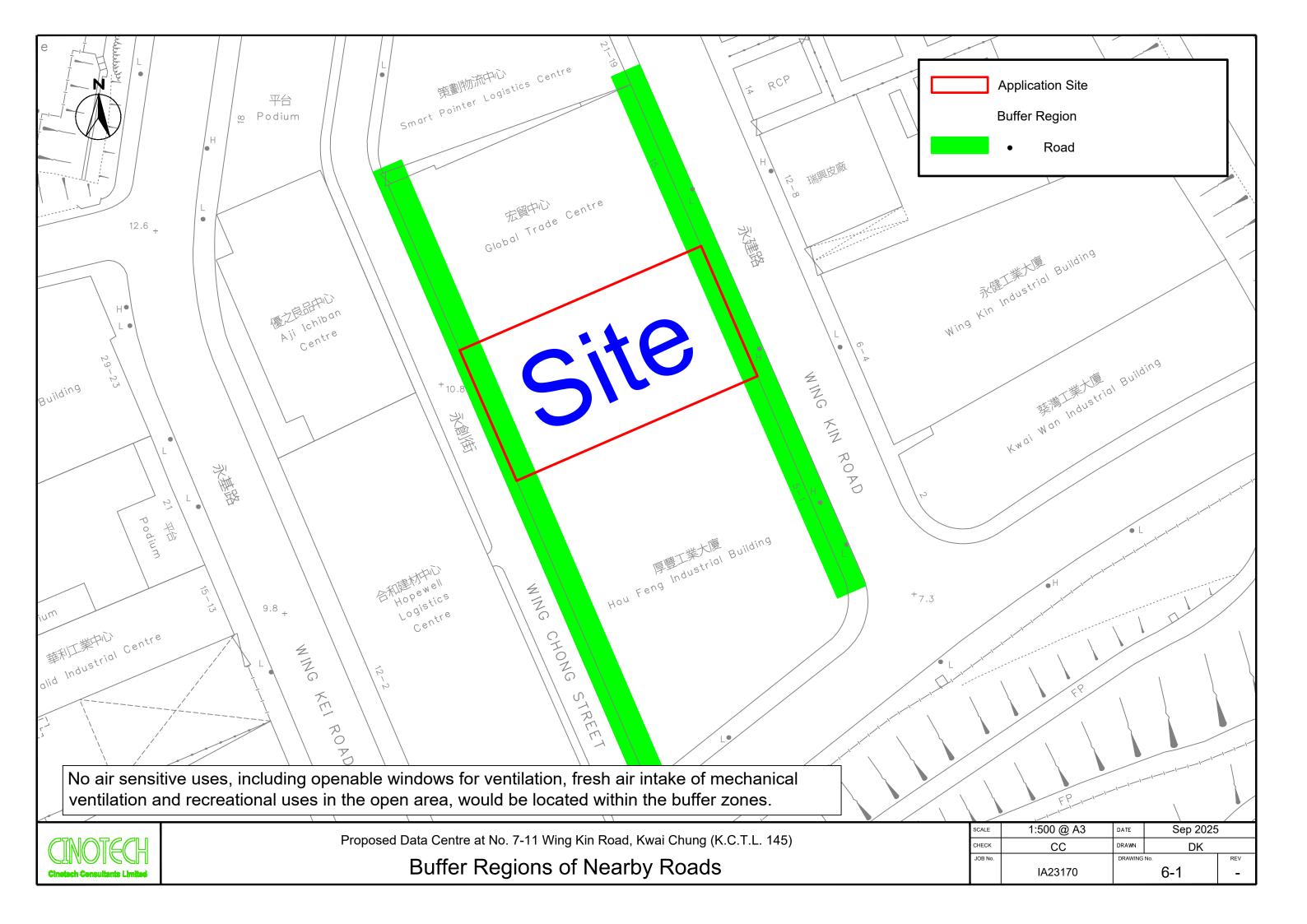
- 7.1.1 The air quality impact from the construction of the proposed development on the surrounding area, as well as the impact from the surrounding area on the proposed development, has been assessed. With the implementation of dust suppression measures as outlined in the Air Pollution Control (Construction Dust) Regulation and adherence to good site practices, no adverse air quality impacts associated with the construction works are expected.
- 7.1.2 The proposed development is not considered a source of air pollutants during normal operation. Backup generators powered by diesel fuel, with a combined capacity of 28,000 kW, will be installed by the tenant. Routine testing may pose a potential source of air quality impact. Since the operation of the backup generators requires a Specified Process (SP) license, the air pollution control plan (APCP) for the SP license application must be approved by the EPD. Given the short operational duration of the backup generators and the necessary mitigation measures to be confirmed in the APCP, adverse air quality impacts arising from the routine testing are not anticipated.
- 7.1.3 A qualitative assessment indicates that vehicular and industrial emissions are not expected to constrain the proposed development, provided that the locations of the fresh air intakes for ASRs and exhaust outlets for the basement carpark are carefully designed.

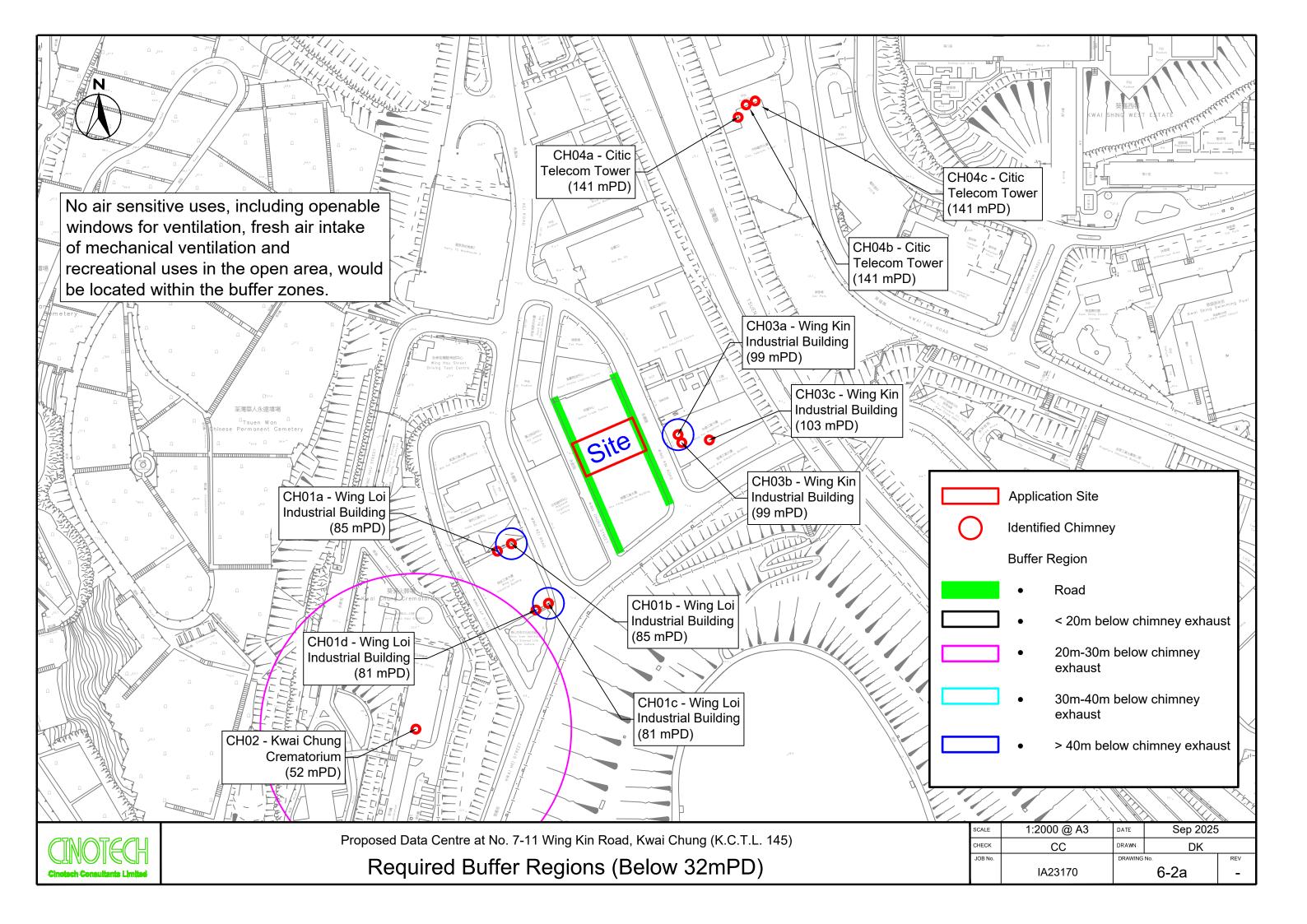
FIGURES

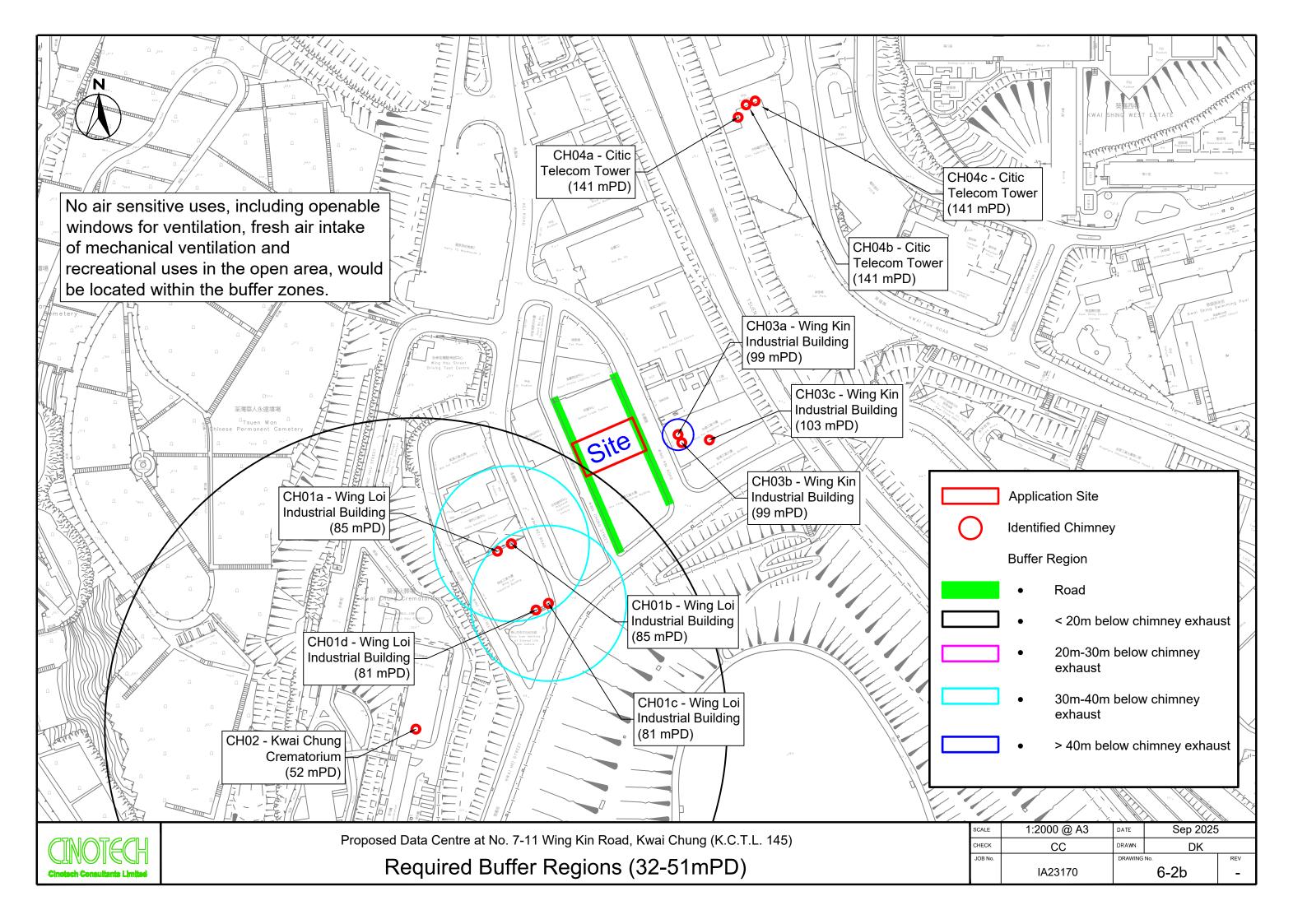


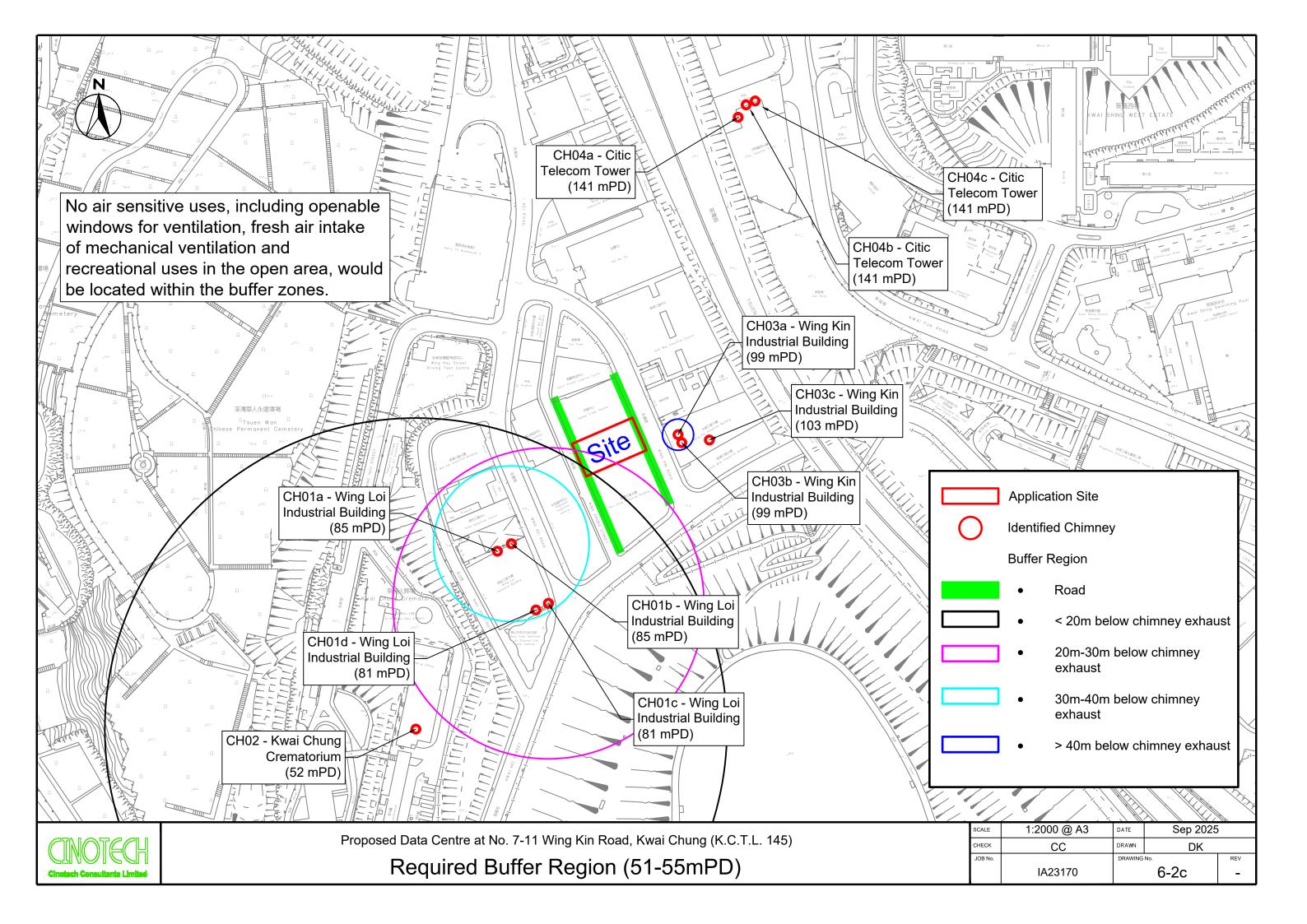


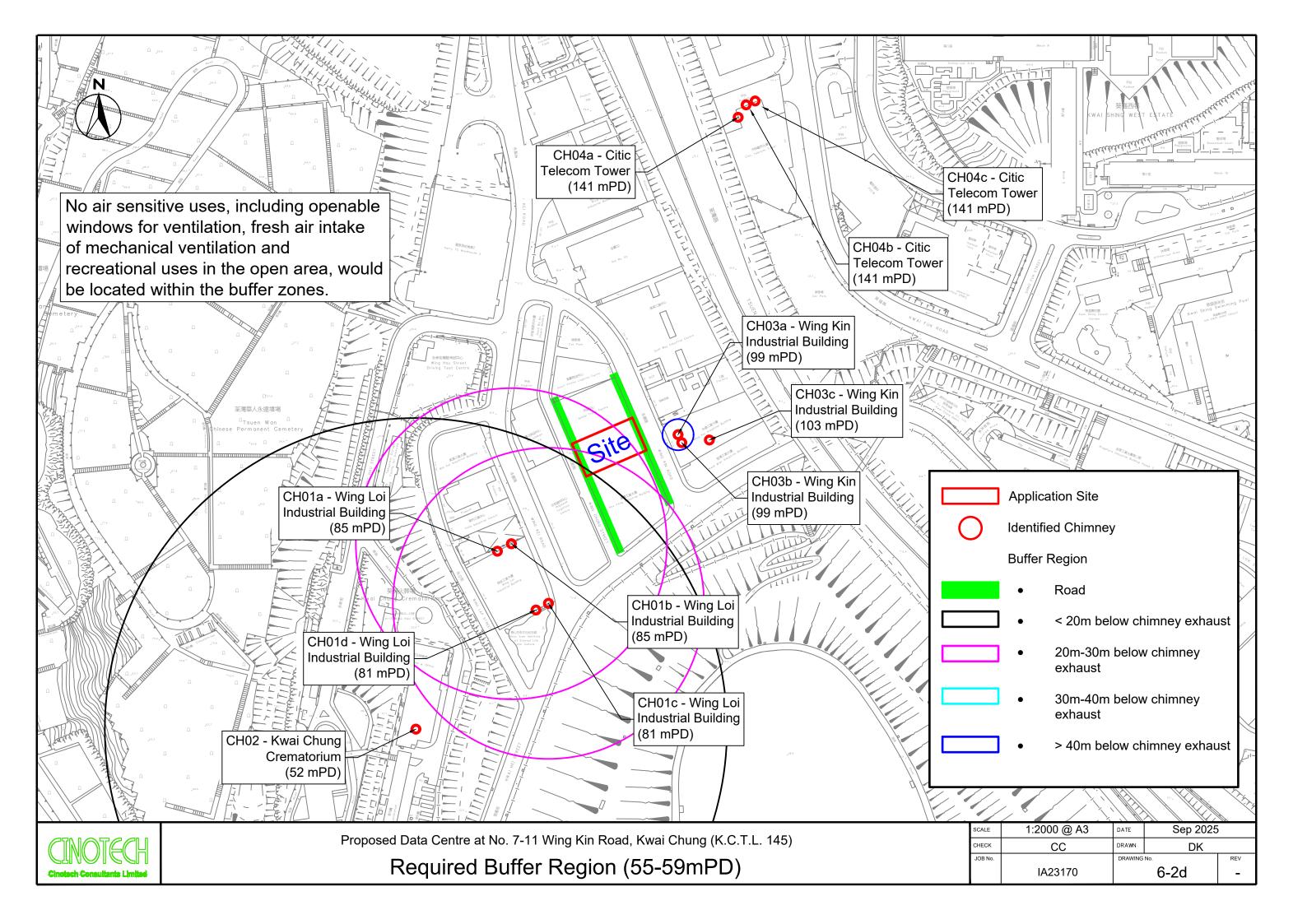


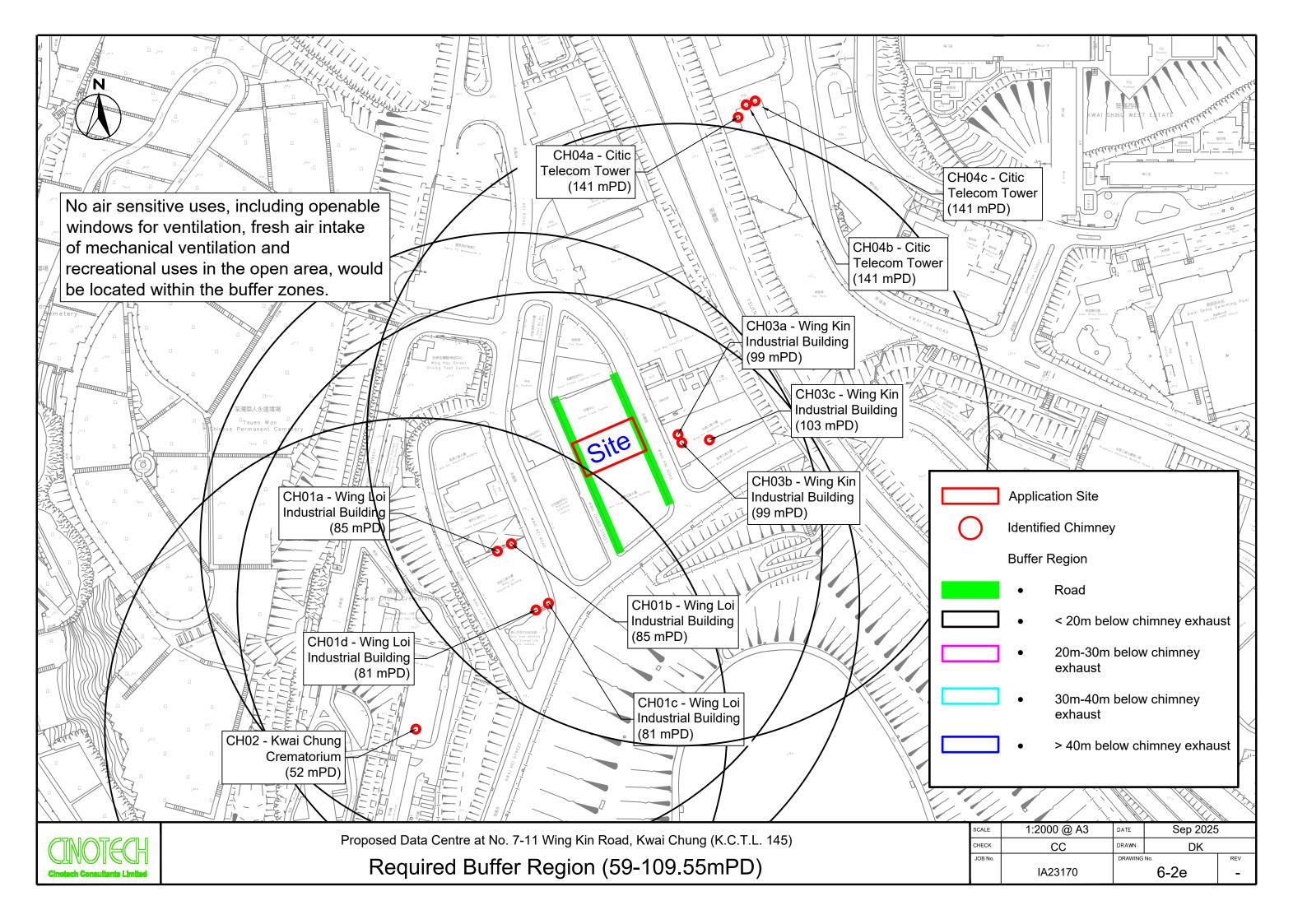


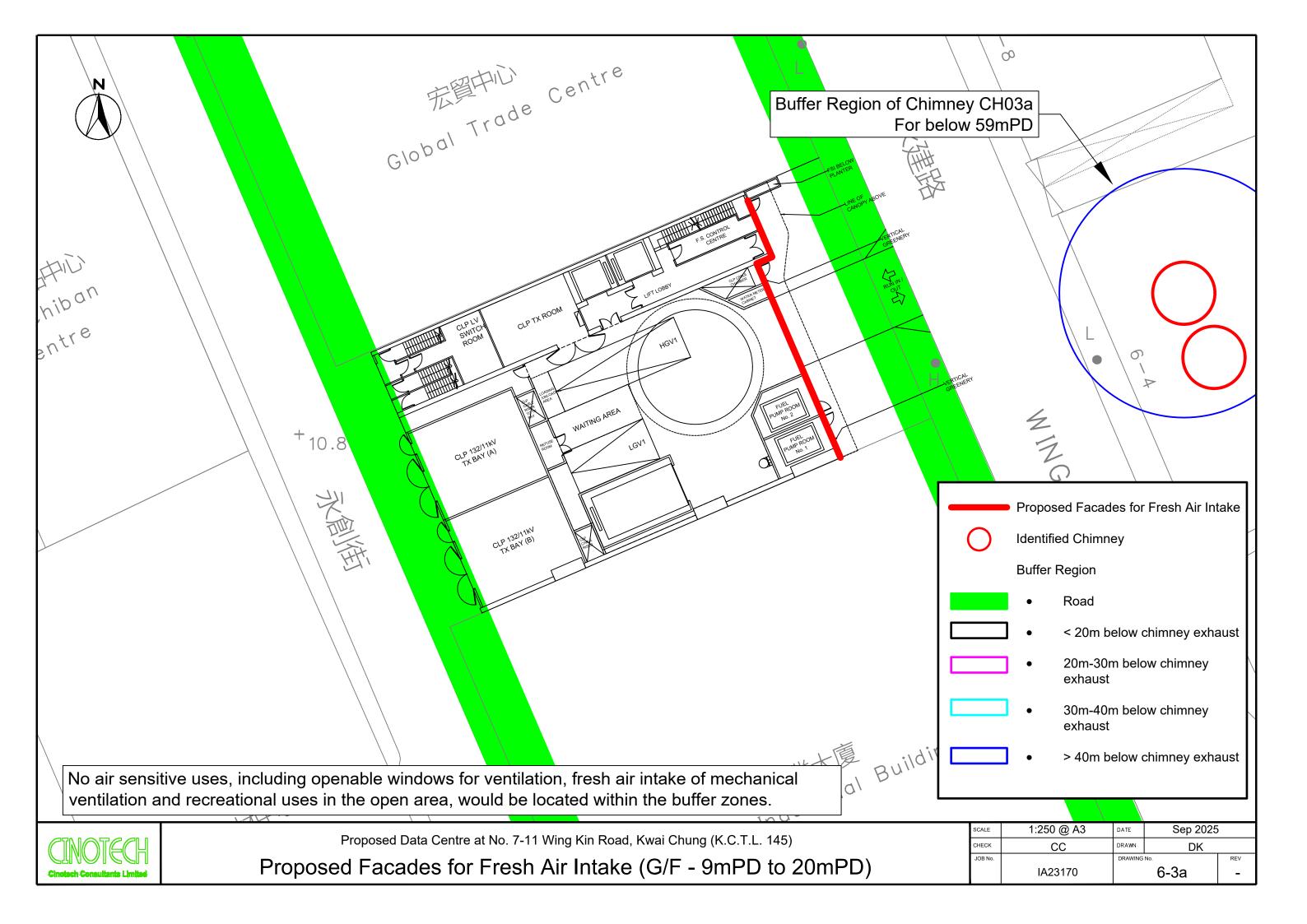


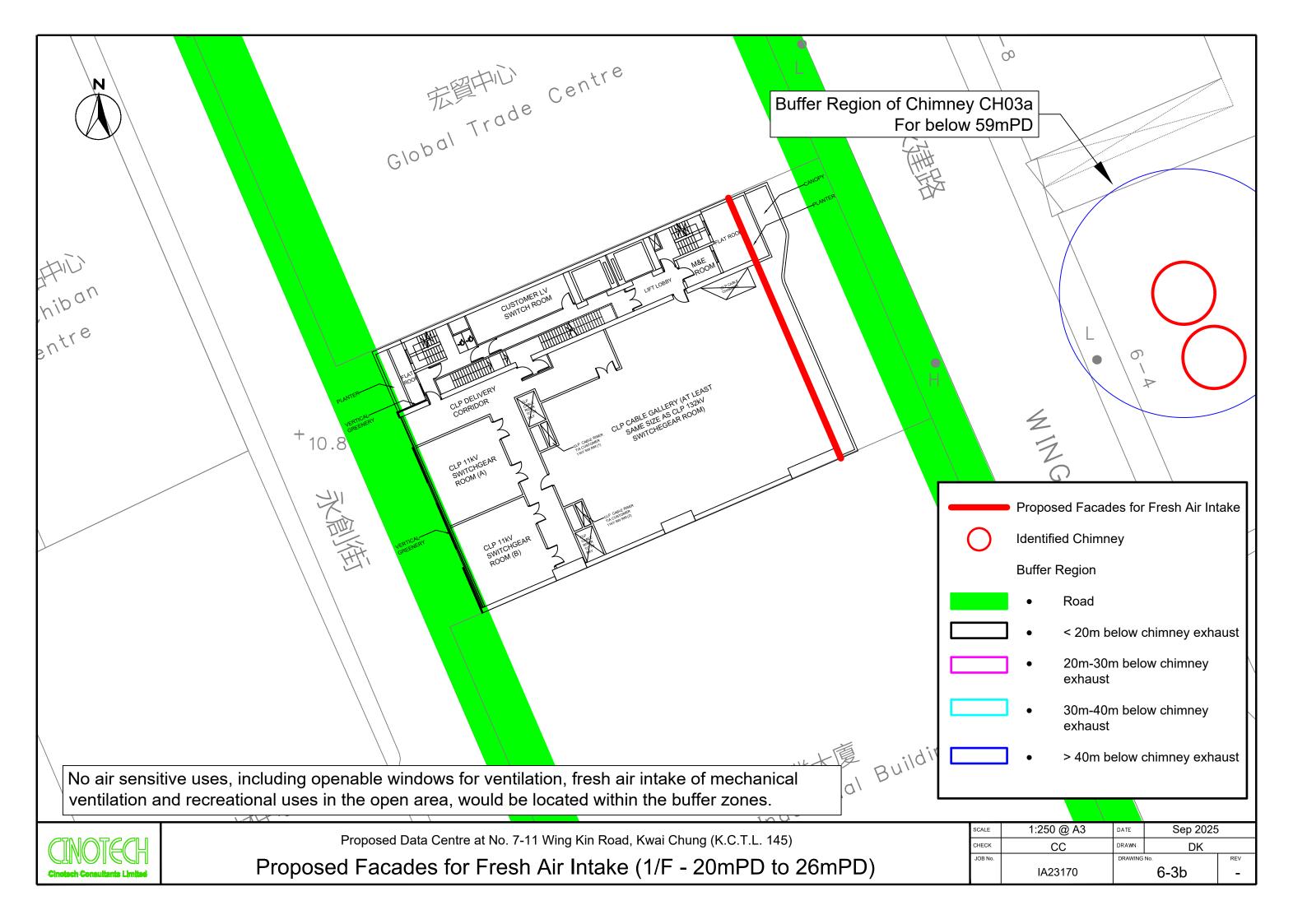


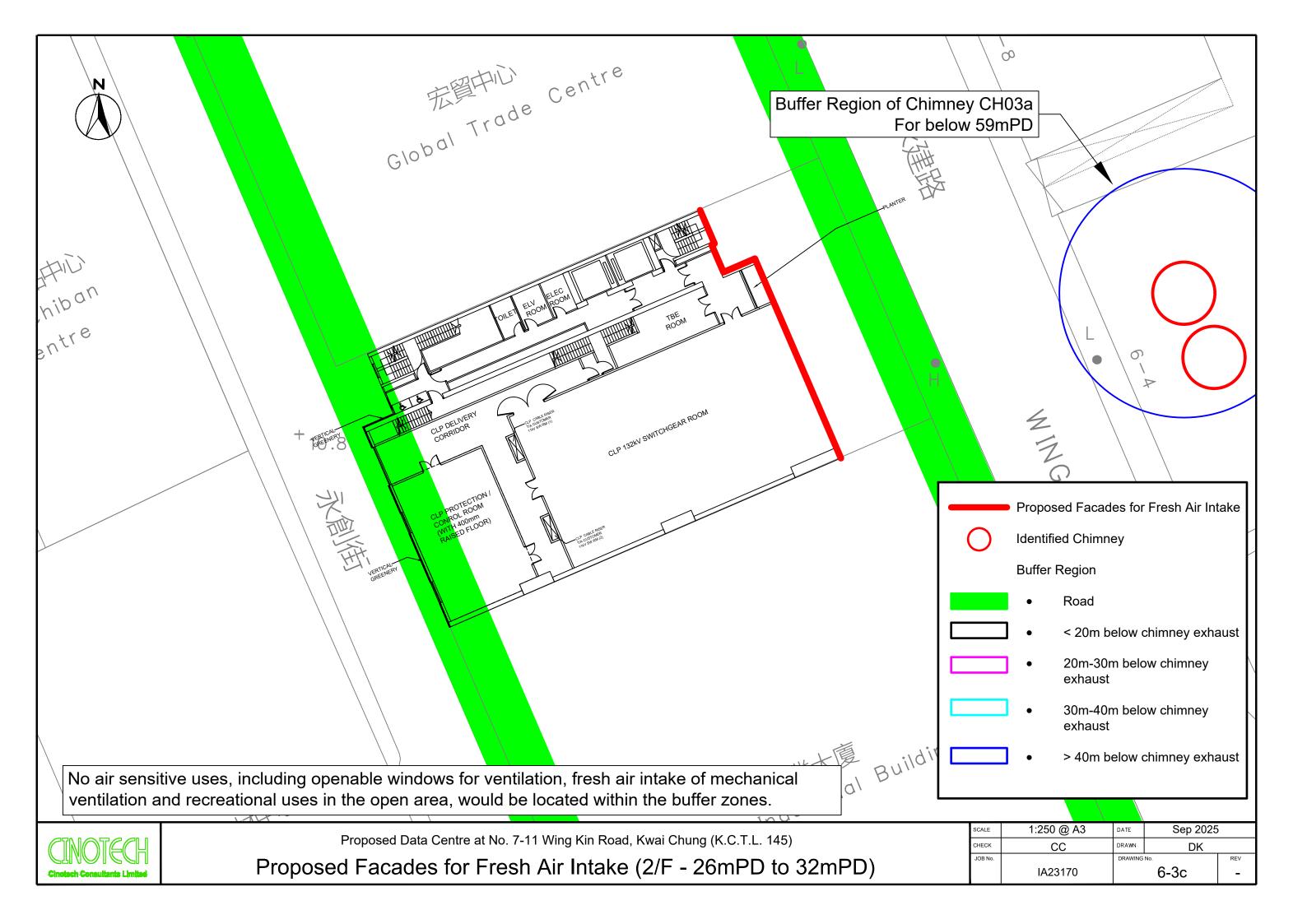


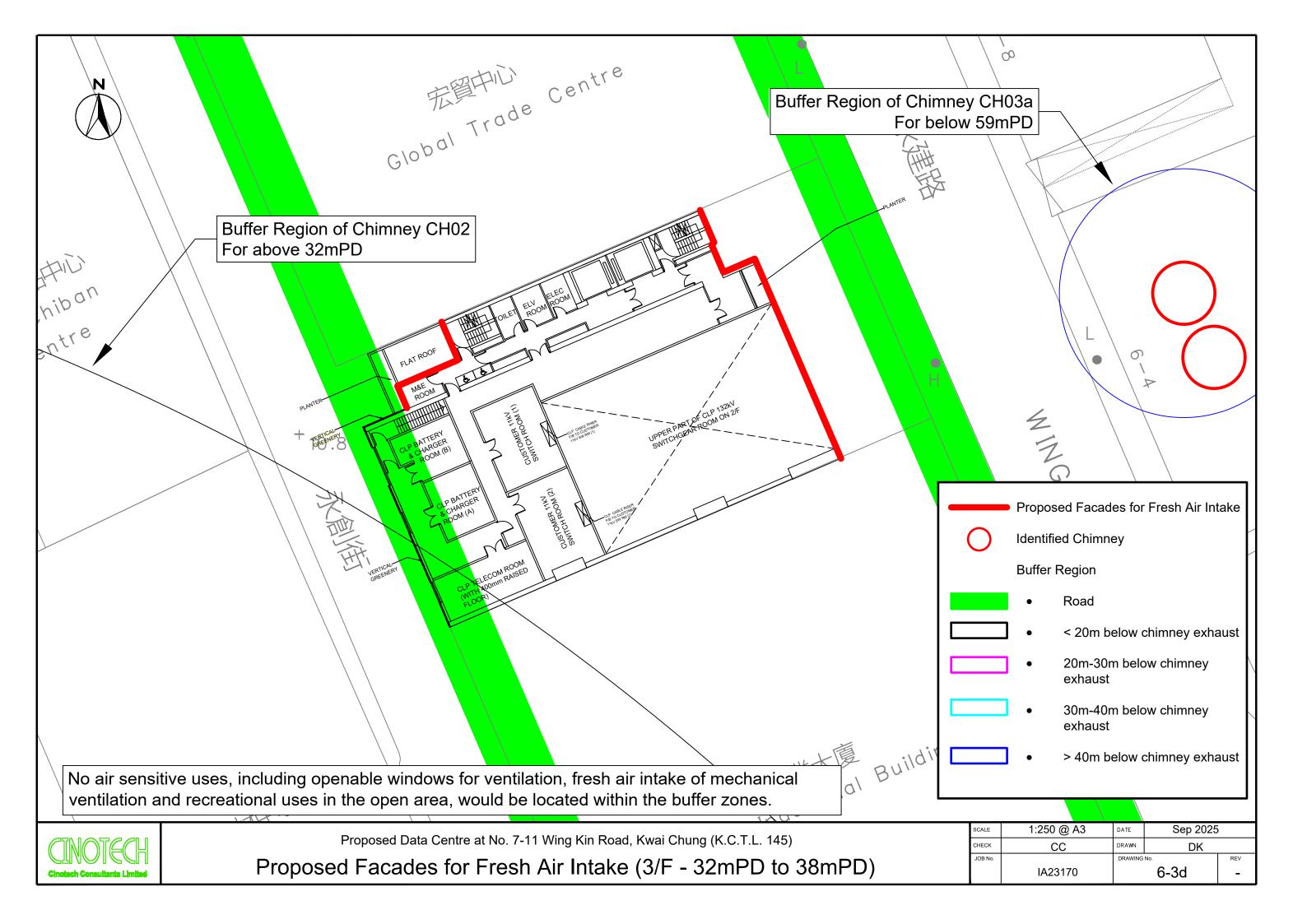


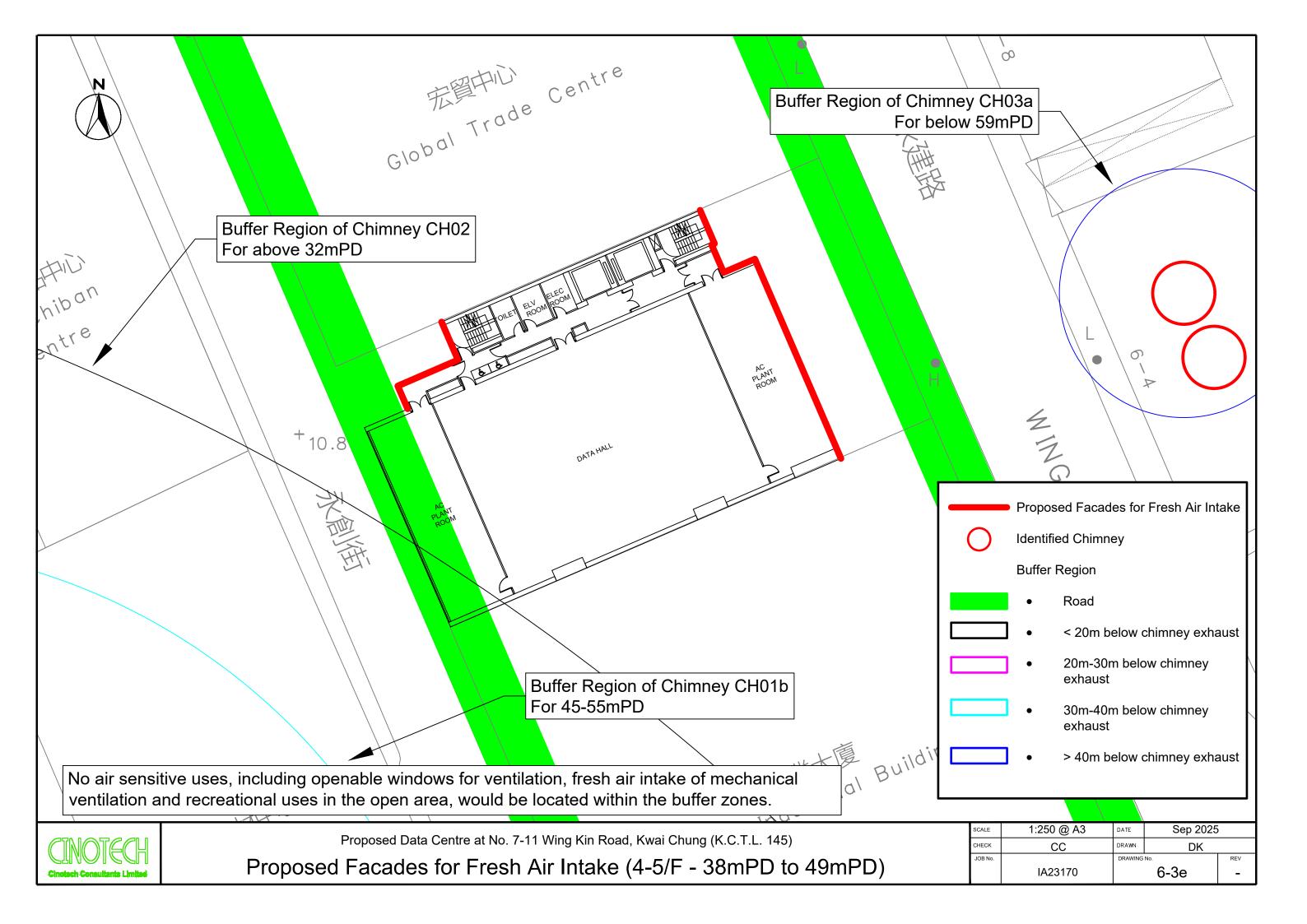


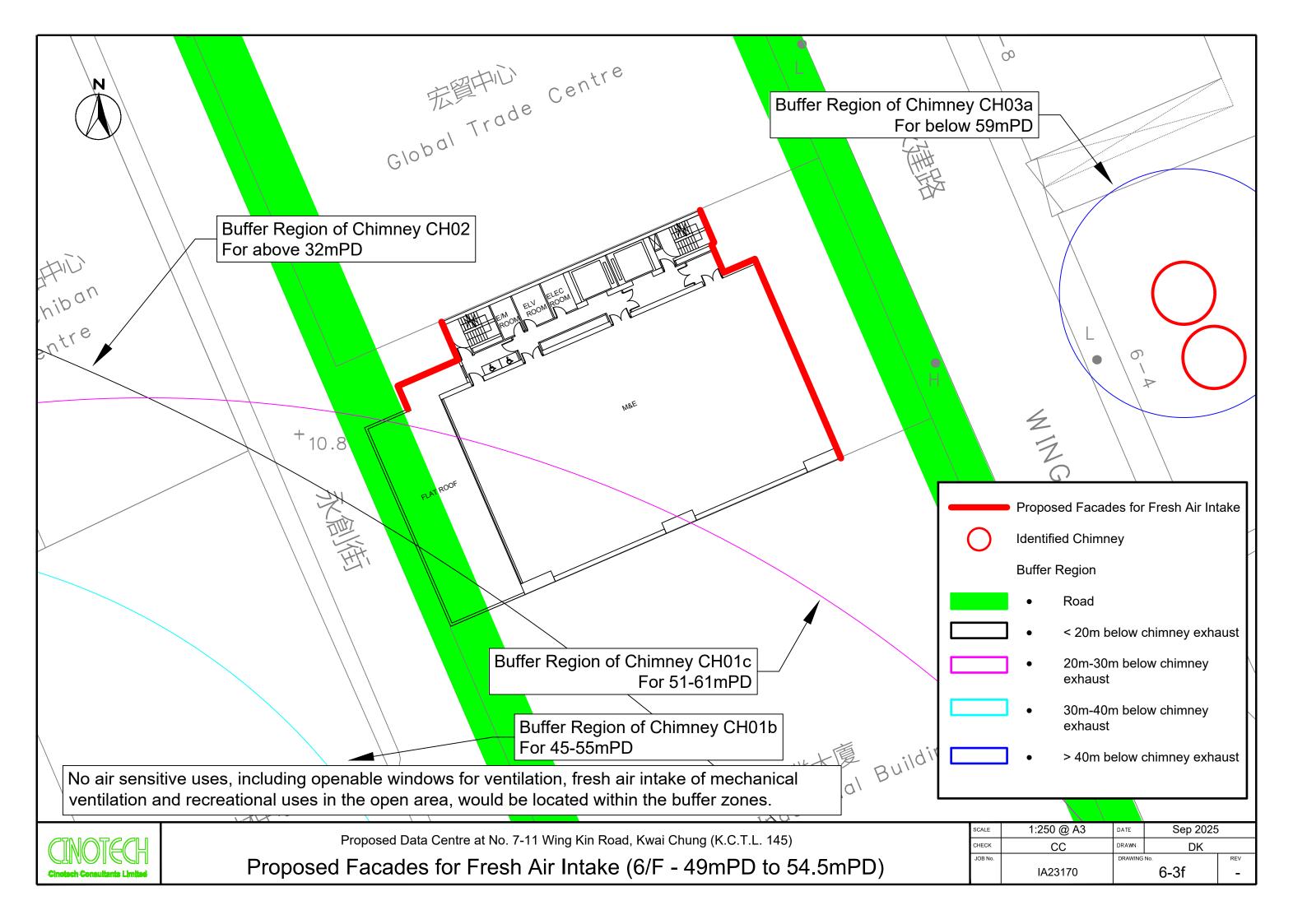


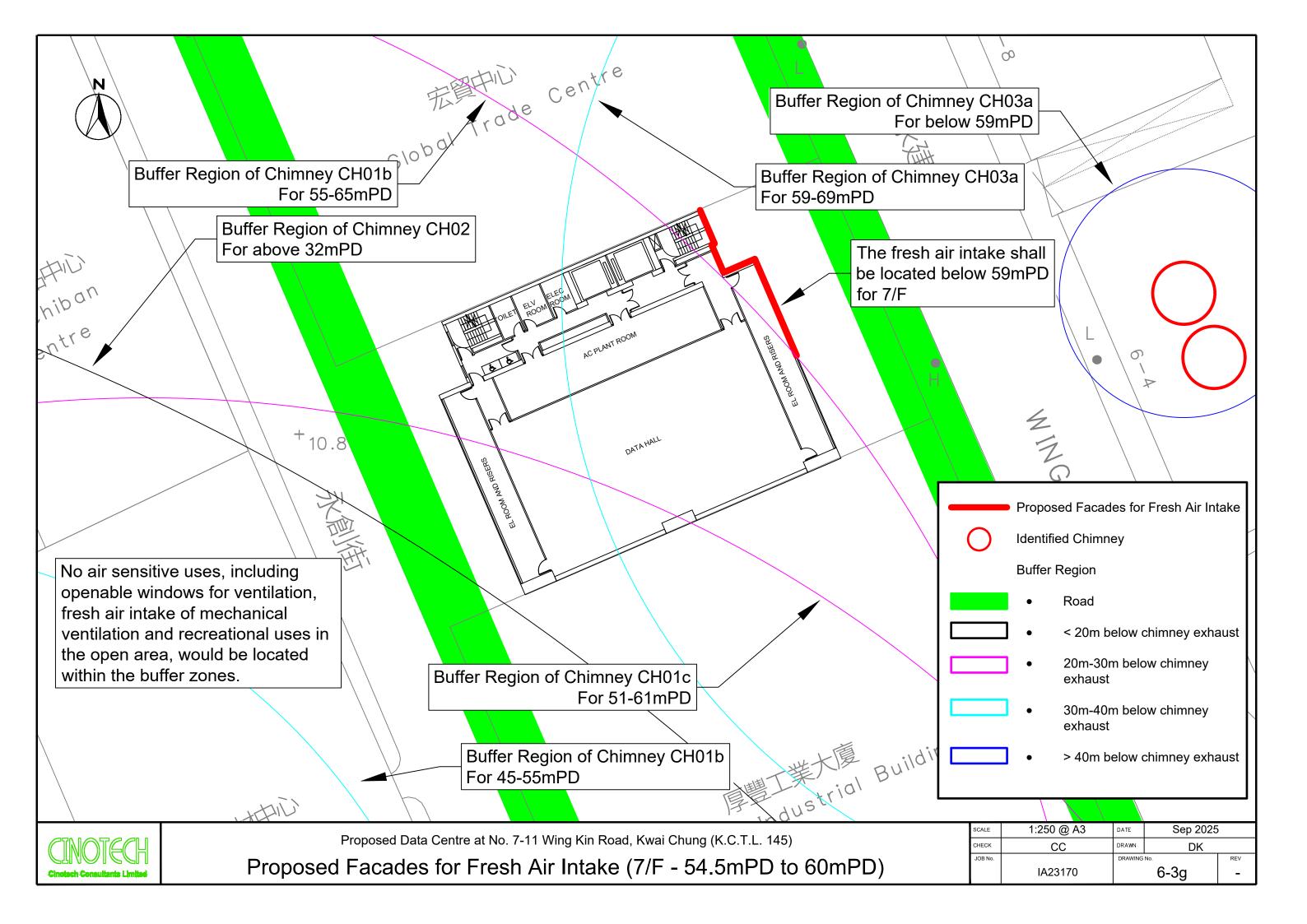












APPENDIX 2-2 IDENTIFIED CHIMNEY IN THE VICINITY

ID Description CH01a Wing Loi Industrial Building

CH01a & CH01b

Photo Records







viewed from northeast

Photos taken during site visit on 28th August 2025

Location of the Chimneys

Estimated from the building footprint derived from the Digital Topographic Map iB1000 and site observations.

Distance from site boundary: ~64 m



Chimney Height

Roof Level: ~77 mPD Source: Open3Dhk

Chimney Height: ~8m above roof

= \sim 85 mPD

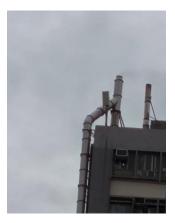
Source: Estimation from site observation (the chimneys' exhausts are at least 3 stories

above roof level).

ID Description CH01c & Wing Loi Industrial Building &

Photo Records

CH01d





viewed from east

viewed from southwest

Photos taken during site visit on 28th August 2025

Location of the Chimneys

Estimated from the building footprint derived from the Digital Topographic Map iB1000 and site observations.

Distance from site boundary: ~85 m



Chimney Height

Roof Level: ~77 mPD Source: Open3Dhk

Chimney Height: ~4m above roof

= \sim 81 mPD

Source: Estimation from site observation (the chimneys' exhausts are around 1.5 stories

above roof level).

ID

Description

CH02

Kwai Chung Crematorium

Photo Records





viewed from north

viewed from east

Photos taken during site visit on 28th August 2025

Location of the Chimneys

Estimated from the building footprint derived from the Digital Topographic Map iB1000 and site observations.

Distance from site boundary: ~196 m





Screen captured from Open3Dhk

Chimney Height

Roof Level: ~31 mPD Source: Open3Dhk

Chimney Height: ~21m above roof

= \sim 52 mPD

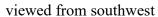
Source: Measured in Open3Dhk

TD CH03a Wing Kin Industrial Building &

Photo Records

CH03b







(Tower setback)

Photos taken during site visit on 28th August 2025

Location of the Chimneys

Estimated from the building footprint derived from the Digital Topographic Map iB1000, measurement from Open3Dhk and site observations. The tower is setback by ~8m according to site survey and Open3Dhk.

Description

Distance from site boundary: ~23 m



About 0 m About 8 m

Screen captured from Open3Dhk (Tower setback)

Chimney Height

Roof Level: ~95 mPD Source: Open3Dhk

Chimney Height: ~4m above roof

= \sim 99 mPD

Source: Estimation from site observation (the chimneys' exhausts are ~1.5 stories

above roof level).

ID Description

CH03c Wing Kin Industrial Building

Photo Records





viewed from southwest

Photos taken during site visit on 28th August 2025

Location of the Chimneys

Estimated from the building footprint derived from the Digital Topographic Map iB1000, measurement from Open3Dhk and site observations.

The chimney around 25m from the west boundary of the building footprint according to site survey and Open3Dhk.

Distance from site boundary: ~40 m





Screen captured from Open3Dhk (Tower setback)

Chimney Height

Roof Level: ~95 mPD Source: Open3Dhk

Chimney Height: ~8m above roof

= \sim 103 mPD

Source: Estimation from site observation (the chimney' exhaust is ~3 stories above roof

level).

CH04a, CH04b &CH04c

Description

Citic Telecom Tower

Photo Records



viewed from northeast



viewed from south



viewed from west (north portion of the roof)



viewed from west (core and south portion of the roof)

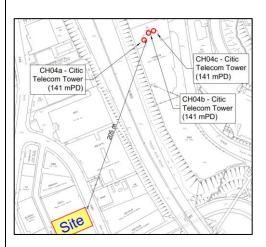
Photos taken during site visit on 28th August 2025

There are exhausts pipes identified along both the south and north façade of the building. However, chimney exhausts are only identified at or near the north facades.

Location of the Chimneys

Estimated from the building footprint derived from the Digital Topographic Map iB1000 and site observations.

Distance from site boundary: ~205 m



ID	Description
	Chimney Height
	Roof Level: ~139 mPD
	Source: Open3Dhk
	Chimney Height: ~2m above roof = ~141 mPD
	Source: Estimation from site observation (the chimneys' exhausts are ~2m above roof level).
	Mei Kei Industrial Building

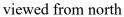
A Chimney likely structure is identified in google 3D map, but not found in site visit on 28th Aug 2025.



Captured from 3D view of google map (last checked on $29^{th}\,$ Aug 2025)

Photo Records







viewed from west

Photos taken during site visit on 28th August 2025