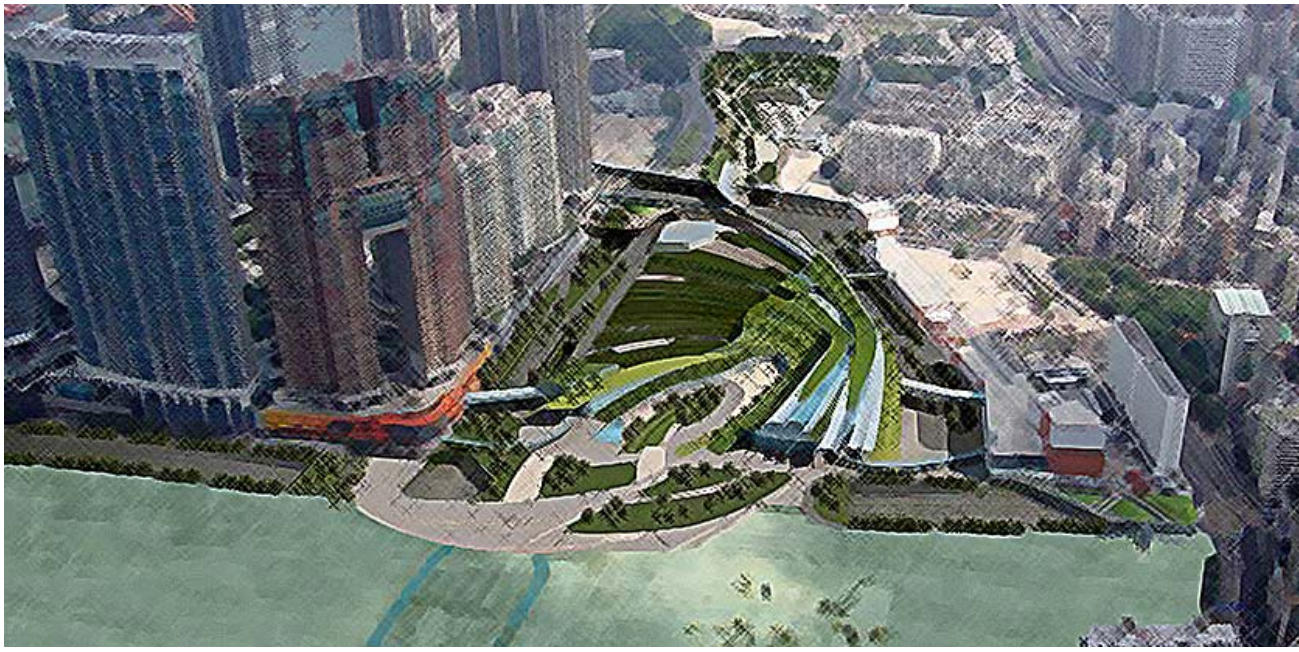
# Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link



Environmental Monitoring and Audit Report

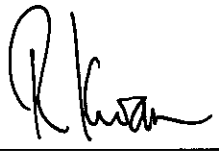
July 2016

MTR Corporation Limited

# HONG KONG SECTION OF GUANGZHOU – SHENZHEN – HONG KONG EXPRESS RAIL LINK

(Environmental Permit No. EP-349/2009/L)

## Environmental Monitoring and Audit Report No. 77
(July 2016)

Certified by: 

Position: Environmental Team Leader

Date: 12 AUG 2016

MTR Corporation Limited

# HONG KONG SECTION OF GUANGZHOU – SHENZHEN – HONG KONG EXPRESS RAIL LINK

(Environmental Permit No. EP-349/2009/L)

## Environmental Monitoring and Audit Report No. 77
(July 2016)

Verified by: 

Position: Independent Environmental Checker

Date: 12 August 2016

## EXECUTIVE SUMMARY

This is the 77th monthly Environmental Monitoring and Audit (EM&A) Report presenting the EM&A works undertaken during the period from 1 to 31 July 2016 for the Hong Kong Section of Guangzhou - Shenzhen - Hong Kong Express Rail Link (hereinafter referred to "the XRL" or "the Project") in accordance with the EM&A Manual and the requirement under EP-349/2009/L issued on 2 July 2014.

### *Air Quality*

Air quality monitoring was conducted for 24-hour Total Suspended Particulates (TSP) at 17 air quality monitoring locations in the vicinity of Works Area in Mai Po (Works Area A), Ngau Tam Mei (Works Area B), Tai Kong Po (Works Area C), Shek Kong (Works Area D), Tse Uk Tsuen, (Works Area E), Pat Heung (Works Area F), Shing Mun (Works Area G), Shek Yam (Works Area H), Kwai Chung (Works Area J), Mei Foo (Works Area L), Nam Cheong (Works Area P and Q) and West Kowloon (Works Area V1 and V2) in the reporting month.

Please refer to the section "Environmental Complaints/Exceedance/Non-compliance/ Summons and Prosecution" below for the exceedance in air quality in the reporting month.

### *Airborne Noise*

Airborne noise was measured in terms of $L_{eq(30min)}$ dB(A) with $L_{10}$ and $L_{90}$ measurements as reference at 29 noise monitoring locations in the vicinity of Works Area in Mai Po (Works Area A), Ngau Tam Mei (Works Area B), Tai Kong Po (Works Area C), Shek Kong (Works Area D), Tse Uk Tsuen (Works Area E), Pat Heung (Works Area F), Shing Mun (Works Area G), Shek Yam (Works Area H), Kwai Chung, (Works Area J and K), Mei Foo (Works Area L), Nam Cheong (Works Area M, P, Q, S and T) and West Kowloon (Works Area V1 and V2) once every week.

Please refer to the section "Environmental Complaints/Exceedance/Non-compliance/ Summons and Prosecution" below for the noise exceedance in the reporting month.

***Ground-borne Noise***

No ground-borne noise measurement was required during the reporting month, as all TBM tunnelling work has been completed.

***Monitoring of Avifaunal Species***

Monthly ecological monitoring was conducted during the construction of Mai Po Ventilation Building Works Area (MPV), access road to Tai Kong Po Works Area (TPP-1/2/3), Shek Kong Stabling Sidings (SSS-2a/3), Pat Heung Ventilation Building Works Area (PHV-1) and Tse Uk Tsuen (TUW-1/2). Spring migrants and summer visitors were recorded at most of the survey sites, showing a seasonal change in species composition. Survey results in July 2016 were compared to wet season baseline results from August 2009 to October 2009. The bird abundance and number of species recorded at most of the Survey Sites were either slightly above the baseline range or within the baseline range. The slight drop in bird abundance and number of species record at Survey Sites TPP-2 and slight drops in number of species record at at TUW-1 and TUW-2 and PHV-1 were likely to be caused by natural fluctuation as neither project-related works nor other disturbance were observed in the vicinity of the Survey Sites. Due to the blocked access to Point Count Location SSS-3/P6, bird count records at Survey Site SSS-3 could not fully reflect the actual on-site condition. Nevertheless, only the number of bird species recorded at Survey Site SSS-3 was slightly below baseline range, while other records within the baseline range. No adverse indirect impacts arising from the Project were identified.

***Monitoring of Impact at Fishpond due to Noise***

In accordance with the Monitoring and Emergency Response Plan, impact noise monitoring was conducted at fish pond on weekly basis for assessment of impact at fishponds due to noise. It was revealed from the monitoring results that all monitoring results were within the Limit Level. Based on the monitoring results, there was no adverse impact at fishpond due to noise.

***Landscape and Visual***

Regular inspections and audits conducted by certified Arborist found that the tree protection works being carried out by the civil works and transplanting contractors were in accordance with the requirements of EP and EIA.

***Environmental Audits***

In this reporting month, regular site inspections attended by representative from MTRCL and Contractors were carried out at 810A, 810B, 811A and 811B in West Kowloon, 820 in Nam Cheong, 821 in Kwai Chung, 822 in Pat Heung, Shing Mun, Shek Yam, Tai Shu Ha Road West Magazine Site, So Kwun Wat Nursery and Magazine Site, 823A and 823B in Shek Kong, Tse Uk Tsuen and Rambler Channel Barging Point, 824 in Ngau Tam Mei and Tai Kong Po, 825 in Mai Po and 826 in Mai Po. In addition to the regular site inspections, IEC environmental audits attended by IEC, MTRCL and Contractors were held on monthly basis. Issues observed during these audits are detailed in Section 6.

***Environmental Complaints / Exceedance / Non-compliance / Summons and Prosecution***

For the reporting month, three environmental complaints were referred from EPD. The environmental complaints received were related to muddy water discharged near the West Kowloon Terminus construction site on 13 July 2016, muddy water from construction site of Ngau Tam Mei Ventilation Building Shaft on 15 July 2016, and construction noise generated from West Kowloon Terminus Approach Tunnel construction site on 20 July 2016. Details of complaints were contained in Section 7.

No exceedance of air-borne noise Limit Level was recorded. One air-borne noise Action Level exceedance was recorded in the reporting month. Details of investigation can be referred to Section 7.

No ground-borne noise measurement was required during the reporting month, as all TBM tunnelling work has been completed.

In the reporting month, no 24-hour TSP Action Level and Limit Level exceedance was recorded.

No notification of summons, non-compliance and prosecution was received during the reporting period.

***Works for Coming Month***

Construction works were started in Works Areas A, B, C, D, D1, E, F, G, H, I, J, K, L, M, P, Q, S, T, U, V1, V2, W, Y, Z, AA, AC, AG, MWS, YY and ARW. Construction works in Works Areas I, J, N, O, R and AE were completed.

Please refer to Table 8-1 for the major works in the respective works areas. Impact monitoring would be continued in coming reporting month accordingly with reference to the EM&A Manual.

***Further Environmental Key Issues***

Air quality, airborne noise at NSRs and fishpond, ecological, landscape and visual monitoring shall continue in the following month. Considering the nature of construction activities, key environmental issues in the coming months include the followings:

- Disposal of C&D waste;
- Dust generation from site activities;
- Noise impact from operating equipment;
- Site water discharge;
- Chemical wastes;
- Ecological impact;
- Trees protection.

***Reporting Changes***

In the reporting period, there was no reporting change.

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# Appendix

Appendix A Works Area
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# 1 INTRODUCTION

## *1.1 Project Background*

Further to the Government's decision made in April 2008, MTR Corporation (MTR) commenced to plan and design the Hong Kong Section of Guangzhou - Shenzhen - Hong Kong Express Rail Link (hereinafter referred to "the XRL" or "the Project"), which is a committed cross boundary transport infrastructure project.

The XRL would provide high speed rail services between Hong Kong and Guangzhou, and a connection to the national high-speed passenger rail network serving major mainland cities outside of Guangdong province. The Hong Kong section of the XRL is about 26km from new terminus located in West Kowloon (i.e. West Kowloon Terminus (WKT)) to the boundary at Huang gang. Along the railway corridor, there would be a total of eight ventilation buildings/ emergency access point (EAP), stabling sidings and a maintenance facility at Shek Kong Stabling Sidings (SSS) and an Emergency Rescue Station (ERS) next to SSS serving the operation of the XRL.

## *1.2 Coverage*

This is the 77$^{th}$ monthly Environmental Monitoring and Audit (EM&A) Report presenting the EM&A works undertaken during the period from 1 to 31 July 2016 for XRL in accordance with the EM&A Manual and the requirement under Environmental Permit No. EP-349/2009/L, which was issued on 2 July 2014.

# 2 PROEJCT INFORMATION

## *2.1 Project Management Organisation and Management Structure*

The project management organisation chart and contact of key personnel are shown in Appendix B.

## *2.2 Construction Activities*

This report marked the 77th month of civil construction in Works Area A, B, C, D, D1, E, F, G, H, K, L, M, P, Q, S, T, U, V1, V2, W, Y, Z, AA, AC, AG, MWS, YY and ARW for July 2016. It is anticipated that the civil construction be completed in year 2018. The updated construction activity for upcoming month is provided in Section 8. Major construction activities undertaken in the reporting month is summarized in the following table.

| **Contract** | **Works Area** | **Major Construction Activities** |
|---|---|---|
| *Nam Cheong* | | |
| 802 | Q | Minor reinstatement of Entrance A of Nam Cheong Station |
| 805 | N,O | Nil (construction works completed) |
| 805 | S | Nil |
| 810A | Y | Material Storage Area |
| 811B | Y | Operation of Nam Cheong Barging Point |
| 820 | M | Nil |
| 820 | P | ABWF in ventilation building |
| 820 | Q | Construction material storage |
| 820 | R | Nil (construction works completed) |
| 816D | T | Site Office |
| *West Kowloon* | | |

| Contract | Works Area | Major Construction Activities |
|---|---|---|
| 810A | V1 | Excavation and site formation; Slab construction; Column installation; Erection and dismantling of falsework and formwork; Cruciform column encasement; Bored pile head trimming; Slab blinding installation; Cleaning construction joint (CJ) and welding coupler; Rebar fixing to column and forming column drop; Erection of column head; Temporary support and platform fabrication; Wall construction; Welding to cathodic protection; Erection of steel roof structure; and Architectural Builders Works and Finishes (ABWF) Finishes |
| 810A | Mong Wing Street (MWS) | Material Storage Area |
| 810A | Yick Yuen Site (YY) | Material Storage Area |
| 810A | Austin Road West (ARW) | Material Storage Area |
| 810A | To Wah Road (TWR) | Material Storage Area |
| 810B | V1 | Preboring, Installation/Dismantling of Strutting; Bored Piling; Sheet piling; Excavation Lateral Support (ELS) Work; Structural Works of Sea Water Intake Chamber; Bulk Excavation; Concreting; Jet Grouting; Station Structure Construction Work; Utility Diversion & Piling Works; Structural Works of Noise Mitigation Deck; Construction of Austin Road West (ARW) Underpass; Construction of Sewerage Pipeline & Manholes; Haul Road Improvement Work; Bottom Up Erection of Formwork; Overhead Track Exhaust (OTE) and Platform installation at B4; Coring/Cutting Openings; and Screen Wall Construction at B4 |
| 810B | W | Operation of Barging Facilities |
| 810A | V2 | ABWF in MKV, landscaping, road reinstatement |
| 810A | U | Site Office |

| Contract | Works Area | Major Construction Activities |
|---|---|---|
| 811B | V2 | Waterproofing to Approach Tunnel; Backfilling to Approach Tunnel; Casting of tunnel top slab Y8c; Casting of sump pit at B4 grid S11; Casting of column at B4, B3, and B2 and internal RC structures; Removal of temporary stanchions at B4, B3 and B2; Excavation and casting of PTI pile caps, ground beams and tie beams; Construct PTI Landscaped Deck columns and deck structures; Construct PTI plant building under deck LD6a and LD6b; Construct WKP above ground building; LCR Underpass SB (northern section) excavation and RC works; Sewer /Storm pipe installation and manhole construction; Removal of temporary traffic decks at temp Jordan Road (EAA area); Install temporary platform at B2 and construct EAA from B2 to B1 to GF; Preparation works for removal of temporary footbridges; Removal of temporary footbridge with main site; Road works for temporary Road D1A (N) straightening |
| *Mei Foo* | | |
| 810A | L | Material Storage Area |
| *Kwai Chung* | | |
| 821 | J | Nil (construction works completed) |
| 810A | J | Material Storage |
| *Pat Heung* | | |
| 822 | F | Landscape planting work; Concrete remedial work |
| *Shek Yam* | | |
| 822 | H | Construction material storage |
| 822 | I | Nil (construction works completed) |
| 822 | K | Site Office |
| *Shing Mun* | | |
| 822 | G | Roof waterproofing; Underground drainage construction; Fence wall footing construction; Dismantle of CLP temporary substation; External roadworks & drainage construction |
| *So Kwun Wat* | | |
| 822 | AC | Site reinstatement |
| *Tai Shu Ha Road West Magazine Site* | | |

| **Contract** | **Works Area** | **Major Construction Activities** |
|---|---|---|
| 822 | AE | Nil (construction works completed) |
| *Tsing Chau Tsai* | | |
| 810A | AG | Material Storage |
| *Shek Kong Stabling Sidings* | | |
| 823A& 823B | D and D1 | Superstructure works for buildings, road and other associated facilities, landscaping and river habitat restoration works |
| *Tse Uk Tsuen* | | |
| 822&823A | E | Backfilling and reinstatement |
| *Rambler Channel Barging Point* | | |
| 810A | Z | Nil (construction works completed) |
| *Ngau Tam Mei* | | |
| 824 | B | Ventilation building construction. Road, drainage and retaining wall construction |
| *Tai Kong Po* | | |
| 824 | C | EAP building construction. EVA road and drainage works. |
| *Mai Po* | | |
| 825 | A | Construction of retaining wall, road and drainage. Backfilling |
| 826 | A | TBM removal, repairing works |
| *Siu Lam Barging Point* | | |
| 810A | AA | Material Storage |
| *To Kau Wan Works Area* | | |
| 823B | - | Nil |

Table 2-1 Major construction activities in the reporting month

# 3 ENVIRONMENTAL STATUS

## *3.1 Status of Implementation of mitigation measures*

Environmental mitigation measures recommended in the EIA report were implemented and their implementation statuses are summarized in Appendix C.

## *3.2 Status of Submissions under EP*

A summary of the submissions submitted under the EP for this Project during the reporting month is presented in Table 3-1 below:

| EP-349/2009/L Clause No. | Document Title |
|---|---|
| 2.46 | Monthly EM&A Report |

Table 3-1 Summary of the status of submissions submitted under the EP in the reporting month

## *3.3 Status of Permit/License/Notifications*

A summary of the status of permits, licences and notifications on environmental protection made, applied or approved under this Project during the previous and reporting month is presented in Table 3-2 below. The Environmental Permit No. EP-349/2009/L issued by EPD was used for the XRL project.

| Item | Item Description | Application Date | Permit Status |
|---|---|---|---|
| *Contract 810A (Works Area V1)* | | | |
| 1 | Construction Noise Permit (for bar bending and cutting at Nam Cheong Barging Point) | 13 Jul 2016 | Granted on 26 Jul 2016<br>Permit No. GW-RW0451-16;<br>valid from 27 Jul 2016 to 26 Jan 2017 |
| 2 | Construction Noise Permit (for main site) | 16 Jun 2016 | Granted on 30 Jun 2016<br>Permit No. GW-RE0649-16;<br>valid from 1 Jul 2016 to 31 Dec 2016 |
| *Contract 810B (Works Area V1)* | | | |

| Item | Item Description | Application Date | Permit Status |
|---|---|---|---|
| 1 | Construction Noise Permit (for road diversion) | 20 Jun 2016 | Granted on 4 Jul 2016<br>Permit No. GW-RE0659-16, valid from 16 Jul 2016 to 31 Jul 2016 |
| *Contract 810B (Works Area W)* | | | |
| 1 | No update in the reporting month | | |
| *Contract 811A (Works Area V2)* | | | |
| | Nil (construction works completed) | | |
| *Contract 811B (Works Area V2 & Y)* | | | |
| 1 | Construction Noise Permit (for removal footbridge segment over LCR (N/B)) | 28 Jun 2016 | Granted on 12 Jul 2016<br>Permit No. GW-RE0706-16, valid from 14 Jul 2016 to 20 Jul 2016 |
| 2 | Construction Noise Permit (For Jordan Road/Road D1A road shift westward) | 8 Jun 2016 | Granted on 24 Jun 2016<br>Permit No. GW-RE0615-16, valid from 25 Jun 2016 to 17 Jul 2016 |
| *Contract 820 (Works Area M, P, Q)* | | | |
| | N/A | | |
| *Contract 821* | | | |
| | Nil (construction works completed) | | |
| *Contract 822 (Works Area F, G, H, K and AC)* | | | |
| | N/A | | |
| *Contract 823A (Works Areas D, D1 and E)* | | | |
| | No update in the reporting month. | | |
| *Contract 823B (Works Area D, Z and To Kau Wan Works Area)* | | | |
| | No update in the reporting month. | | |

| Item | Item Description | Application Date | Permit Status |
|---|---|---|---|
| *Contract 824 (Works Area B and C)* | | | |
| 1 | Construction Noise Permit at Ngau Tam Mei Works Area | 7 December 2015 | Permit No. GW-RN0825-15 obtained. Valid until 26 July 2016 |
| 2 | Construction Noise Permit at Tai Kong Po Works Area | 12 January 2016 | Permit No. GW-RN0065-16 obtained. Valid until 28 August 2016 |
| 3 | Construction Noise Permit at Ngau Tam Mei Works Area | 23 June 2016 | Permit No. GW-RN0505-16 obtained. Valid until 25 January 2017 |
| *Contract 825 (Works Area A and AA)* | | | |
| 1 | Construction Noise Permit | 23 May 2016 | Permit No. GW-RN0398-16 obtained. Valid until 13 December 2016 |
| 2 | Construction Noise Permit | 23 May 2016 | Permit No. GW-RN0399-16 obtained. Valid until 13 December 2016 |
| *Contract 826* | | | |
| 1 | Construction Noise Permit | 10 May 2016 | Permit No. GW-RN0361-16 obtained. Valid until 30 November 2016 |
| 2 | Construction Noise Permit (TBM Removal) | 16 June 2016 | Permit No. GW-RN0484-16 obtained. Valid from 6 to 7 July 2016 |

Table 3-2 Summary of the status of permits, licences and notifications made, applied and approved under this Project during the previous and reporting month

# 4 SUMMARY OF EM&A REQUIREMENT

## *4.1 Air Quality*

### *4.1.1 Air Quality Parameters*

In accordance to the EM&A Manual, 24-hour Total Suspended Particulates (TSP) levels were measured at the 17 air monitoring locations in accordance with the EM&A Manual. Monitoring was undertaken at each monitoring location once per every 6 days. Information such as date of monitoring, duration, weather condition, equipment used and monitoring results shall be recorded on the field data sheet developed for the Project. Monitoring results are summarized in Section 5.

### *4.1.2 Monitoring Methodology and Calibration*

Monitoring was undertaken to establish for 24-hour Total Suspended Particulates (TSP) at 17 monitoring locations in the vicinity of the Works Area A, B, C, D, E, F, G, H, J, L, P, Q, V1 and V2. Monitoring of 24-hour TSP was carried out using a high volume sampler (HVS) according to Part 50 Chapter 1 Appendix B, Title 40 of the Code of Federal Regulations of the USEPA.

The sampling procedure follows to that described Part 50 Chapter 1 Appendix B, Title 40 of the Code of Federal Regulations of the USEPA. TSP is sampled by drawing air through a conditioned, pre-weighed filter paper inside the high volume sampler at a controlled rate. After 24-hour sampling the filter paper with retained particles shall be collected and returned to HOKLAS accredited laboratory (ALS Technichem (HK) Pty Ltd) for drying in a desiccators followed by accurate weighing. TSP levels are calculated from the ratio of the mass of particulate retained on the filter paper to the total volume of air sampled.

The flow rate of the high volume sampler with mass flow controller was calibrated using an orifice calibrator. Initial calibration (five points) was conducted upon installation and prior to commissioning. Calibration was carried out every six months. Detail of calibration is shown in Table 4-1 and 4-2 below. The samplers shall be properly maintained. Prior to dust monitoring commencing, appropriate checks shall be made to ensure that all equipment and necessary power supply are in good working condition.

| **High Volume Sampler (HVS)** | | | |
|---|---|---|---|
| **Monitoring Station ID** | **Air Quality Monitoring Location** | **HVS Serial Number** | **Last Calibration Date** |
| AM 1 | Mai Po San Tsuen | 467 | 27/6/2016 |
| AM 2 | Yau Tam Mei Village House | 468 | 24/2/2016 |
| AM 3 | Kong Tai Road Village House | 510 | 6/6/2016 |
| AM 4 | DD110 LOT 482, Wang Toi Shan | 521 | 25/5/2016 |
| AM 5 | Leung Uk Tsuen Squats | 1276 | 31/5/2016 |
| AM 6 | 630 Sheung Tsuen | 469 | 4/5/2016 |
| AM 7 | Tse Uk Tsuen | 1763 | 21/4/2016 |
| AM 8 | No. 305B, Sheung Tsuen San Tsuen Village House | 520 | 25/2/2016 |
| AM 9 | Sau Shan House, Cheung Shan Estate | 529 | 27/6/2016 |
| AM 10 | Yau Ma Hom Resite Village | 509 | 24/5/2016 |
| AM 11 | Chung Shun Knitting Centre | 1707 | 13/4/2016 |
| AM 12 | Po Leung Kuk Tong Nai Kan College | 520 | 20/6/2016 |
| AM 13 | St. Andrew Primary School | 524 | 20/6/2016 |
| AM 14 | Yaumati Catholic Primary School | 407 | 20/6/2016 |
| AM 15 | Between Sorrento and The Waterfront | 515 | 29/2/2016 |
| AM 16 | Tower 3, The Waterfront | 1282 | 29/7/2016 |
| AM 17 | The Victoria Towers | 528 | 29/7/2016 |

Table 4-1 Calibration details of HVS

| **Orifice Calibrator** | |
|---|---|
| Serial Number | Last Date of Calibration |
| 0438320 | 12 January 2016 |

Table 4-2 Calibration details of Orifice Calibrator

### *4.1.3 Monitoring Location*

Air quality monitoring was carried out at the locations chosen in accordance to the EM&A Manual, the locations are as shown in Table 4-1 above and are illustrated in Appendix D.

### *4.1.4 Action and Limit Levels*

With reference to the baseline monitoring results, the Action and Limit Levels for the 24-hour TSP monitoring derived are shown in Table 4-3. In the case of exceedance of Action and/or Limit levels for air quality occur, the Event and Action Plan as stipulated the EM&A Manual shall be implemented.

| **Monitoring Station ID** | **24-hour TSP Level in μg/m$^3$** | |
|---|---|---|
| | **Action Level** | **Limit Level** |
| AM 1 | 217.3 | 260 |
| AM 2 | 179.4 | 260 |
| AM 3 | 154.7 | 260 |
| AM 4 | 148.6 | 260 |
| AM 5 | 152.0 | 260 |
| AM 6 | 145.6 | 260 |
| AM 7 | 149.8 | 260 |
| AM 8 | 158.1 | 260 |

| Monitoring Station ID | 24-hour TSP Level in μg/m$^3$ | |
|---|---|---|
| | Action Level | Limit Level |
| AM 9 | 171.2 | 260 |
| AM 10 | 174.8 | 260 |
| AM 11 | 160.3 | 260 |
| AM 12 | 162.5 | 260 |
| AM 13 | 180.3 | 260 |
| AM 14 | 158.2 | 260 |
| AM 15 | 168.8 | 260 |
| AM 16 | 155.9 | 260 |
| AM 17 | 179.3 | 260 |

Table 4-3 Action and Limit Levels for Air Quality

### *4.2 Air-borne Noise*

#### *4.2.1 Noise Parameters*

In accordance to the EM&A Manual, construction noise monitoring shall be conducted to obtain one set of 30-minute measurement at each monitoring station between 0700 and 1900 hours on normal weekdays at a frequency of once per week when construction activities are underway. The $L_{eq}$, $L_{10}$ and $L_{90}$ were also recorded at the specified interval.

#### *4.2.2 Monitoring Methodology and Calibration*

As referred to the Technical Memorandum (TM) issued under the NCO, sound level meters in compliance with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications shall be used for carrying out the noise monitoring. B&K 2250 sound level meters, which complies with the above-mentioned specifications, were used for construction noise monitoring.

Before and after each series of measurements, the accuracy of the sound level meter should be checked using an acoustic calibrator generating a known sound pressure

level at a known frequency. Measurements may be accepted as valid only if the difference between calibration levels obtained before and after the noise measurement is less than 1.0 dB.

The sound level meters and calibrator are verified by the certified laboratory or manufacturer at a regular interval to ensure they perform to the same level of accuracy as stated in the manufacturer's specifications. Detail of calibration is shown in Table 4-4 below and Appendix K.

| Monitoring Station ID | Noise Monitoring Location | Serial Number | Last Calibration Date |
|---|---|---|---|
| *Sound Level Meters* | | | |
| CN 1 | No. 142 Mai Po San Tsuen | N/A [3] | N/A [3] |
| CN 2 | Mai Po San Tsuen Village House | 2701826 | 28/02/2015 |
| CN 3 | Yau Tam Mei Village House | 2709426 | 03/03/2015 |
| CN 4 | Yau Tam Mei Village House | 2715360 | 21/08/2014 |
| CN 5 | Kong Tai Road Village House | 2718895 | 20/05/2015 |
| CN 6 | Kong Tai Road Village House | 2718879 | 17/06/2015 |
| CN 7 | 372 Tai Kong Po Tsuen | 2718881 | 20/05/2015 |
| CN 8 | DD110 LOT 482, Wang Toi Shan | 2718882 | 28/05/2015 |
| CN 9 | Leung Uk Tsuen Village House | 2718889 | 20/05/2015 |
| CN 10 | DD110 LOT 482, Wang Toi Shan | 2718891 | 17/06/2015 |
| CN 11 | 182B, Wang Toi Shan San Tsuen | 2718884 | 15/07/2015 |
| CN 12 | DD108, Nam Hing Lei, Wing Hing Wai | 2701821 | 17/12/2014 |
| CN 13 | Tse Uk Tsuen | 2718883 | 11/06/2015 |
| CN 14 | Tse Uk Tsuen | 2718890 | 11/06/2015 |
| CN 15 | No. 305B - Sheung Tsuen San Tsuen Village House | 2718885 | 11/06/2015 |
| CN 16 | DD 114 LOT 1405 Sheung Tsuen | 2701819 | 10/01/2015 |

| Monitoring Station ID | Noise Monitoring Location | Serial Number | Last Calibration Date |
|---|---|---|---|
| CN 18 | Sau Shan House | 2701831 | 17/12/2014 |
| CN 19 | Sun Fung Centre | 2701824 | 03/04/2015 |
| CN 20 | VTC Kwai Chung Training Centre Complex | 2718894 | 11/06/2015 |
| CN 21 | Po Leung Kuk Tong Nai Kan College | 2701820 | 19/03/2015 |
| CN 22 | Block I, Lai Chi Kok Reception Centre | 2709427 | 19/03/2015 |
| CN 23 | HKIVE Haking Wong Waterfront Annex | N/A [5] | N/A [5] |
| CN 24 | St. Andrew Primary School | 2701825 | 22/01/2015 |
| CN 25 | St. Mary's Church Mok Hing Yiu College | 2709428 | 03/04/2015 |
| CN 26 | Ying Wah College | 2701822 | 06/02/2015 |
| CN 27 | Cheong Shun House, Nam Cheong Estate | N/A [6] | N/A [6] |
| CN 28 | Tower 6, Harbour Green | 2701817 | 13/03/2015 |
| CN 29 | Yaumati Catholic Primary School | 2701815 | 23/12/2014 |
| CN 30 | Man Cheong Street Refuse Collection Point | 2701816 | 10/01/2015 |
| CN 31 | Tower 6, Sorrento | N/A [4] | N/A [4] |
| CN 32 | Tower 3, The Waterfront | 2701823 | 29/01/2015 |
| CN 33 | Star Tower, The Arch | 2701827 | 21/01/2015 |
| CN 34 | The Victoria Towers | 2701829 | 10/01/2015 |
| *Calibrator* | | | |
| **Serial Number** | | **Last Calibration Date** | |
| N674902 | | 24/10/2014 | |

Table 4-4 Calibration details of noise monitoring equipments

Note:

1. Due to school closure, monitoring at Tsuen Wan Lutheran School (CN 17) was temporarily suspended. Monitoring would be carried out subject to confirmation of noise sensitive use of the building.

2. A correction factor (9 dB(A)) has been applied at CN19 to take into account the noise barrier effect. The correction factor was agreed with IEC according to Section 3.11 of the EM&A Manual.

3. Impact monitoring at No. 142 Mai Po San Tsuen (CN1) had been temporarily suspended since December 2012 due to house removal. Monitoring at this location will be resumed when an alternative location is determined. Therefore, the sound level meter for CN1 is not calibrated until monitoring is resumed.

4. Impact monitoring at Tower 6, Sorrento (CN31) has been temporarily suspended from end of August 2014 due to the objection from the OC of Sorrento has been received in early August 2014. Monitoring at this location would be resumed when an alternative location is determined.

5. Due to completion of all works at CN23, monitoring at HKIVE Haking Wong Waterfront Annex (CN 23) has been suspended from March 2015.

6. Due to completion of works in the vicinity at CN27, monitoring at Nam Cheong Estate (CN 27) has been suspended from September 2015.

### *4.2.3 Monitoring Location*

According to the EM&A Manual, noise monitoring was carried out at the locations as shown in Table 4-4 above. The monitoring locations are illustrated in Appendix D.

### *4.2.4 Action and Limit Levels*

The Action and Limit Levels for the construction noise are shown in Table 4-5 below. In the case of non-compliance of Action and/or Limit level, the Event and Action Plan stipulated in the EM&A Manual shall be implemented.

| Time Period | Action | Limit |
|---|---|---|
| 0700-1900 hours on normal weekdays | When one documented complaint is received | 75 dB(A) for residential premises |
| | | 70 dB(A) for school and 65 dB(A) during examination period |

Table 4-5 Action and Limit Levels for Airborne Construction Noise

### *4.2.5 Review of baseline at CN21*

With reference to Baseline Monitoring Report, the baseline noise level at CN21 would be reviewed regularly once every six months to confirm its validity and the results would be included in the EM&A report. Baseline monitoring was carried out in July 2016 for a consecutive of 14 days. One set of $L_{eq(30min)}$ measurement was taken daily during the hours without any construction works at works area in the vicinity of CN21. Dominant noise source at CN21 during the time of baseline review measurement was identified to be background traffic noise.

| Date | Start time | End time | $L_{eq\ (30min)}$ dB(A) |
|---|---|---|---|
| 03/07/2016 | 11:55 | 12:25 | 67 |
| 04/07/2016 | 12:25 | 12:55 | 68 |
| 05/07/2016 | 12:25 | 12:55 | 68 |
| 06/07/2016 | Monitoring cancelled due to rainfall | | |
| 07/07/2016 | 12:00 | 12:30 | 69 |
| 08/07/2016 | 11:55 | 12:25 | 67 |
| 09/07/2016 | 12:15 | 12:45 | 67 |
| 10/07/2016 | 12:20 | 12:50 | 71 |
| 11/07/2016 | 12:00 | 12:30 | 73 |
| 12/07/2016 | 12:20 | 12:50 | 67 |
| 13/07/2016 | Monitoring cancelled due to rainfall | | |
| 14/07/2016 | 12:20 | 12:50 | 67 |
| 15/07/2016 | 12:10 | 12:40 | 68 |
| 16/07/2016 | 12:00 | 12:30 | 68 |
| 17/07/2016 | 12:25 | 12:55 | 67 |
| 18/07/2016 | 12:20 | 12:50 | 68 |
| Average $Leq_{(30min)}$, dB(A) | | | 69 |

Table 4-5: Review of baseline monitoring results at CN 21

The above table showed the revised average daytime baseline noise level at CN21 is lower than the previously recorded baseline level (71 dB(A)). The revised baseline noise level would be adopted as reference for impact monitoring in the coming 6 months before the next half-yearly review of baseline noise level.

### *4.3 Ground-borne Noise*

No ground-borne noise measurement was required during the reporting month, as all TBM tunnelling work has been completed.

### *4.4 Ecological Monitoring*

#### *4.4.1 Ecological Monitoring on Avifaunal Communities*

***Monitoring methodology***

In accordance with the Ecological Monitoring Plan, avifaunal communities would be surveyed quantitatively by transect count or/and point count method covering the vicinity of the works area as shown in Table 4-6 below. Birds heard or seen within the survey area would be identified to species level and counted. The nature of construction works within works area conducting during each impact monitoring would also be recorded. Weather condition and other noticeable activities occurring

within or in the vicinity of the survey areas would be recorded. The impact monitoring results would be compared to the baseline data collected before construction. Should any unpredicted indirect ecological impacts arising from the Project be detected, remedial measures would be implemented by the Contractor.

***Monitoring location, frequency and duration***

In accordance with the EM&A Manual and Ecological Monitoring Plan, ecological monitoring should be conducted at Works Area in MPV, TPP, SSS/ERS, TUW and PHV. With the hoarding erection completed and construction works at MPV, TPP and PHV commenced, ecological monitoring on monthly basis was commenced accordingly. The location, frequency and duration of ecological monitoring at MPV, TPP, SSS/ERS, TUW and PHV are shown in the table below and figures in Appendix D.

| **Works Area** | **Survey Site** | **Monitoring Location** | **Monitoring Frequency** | **Monitoring Duration** |
|---|---|---|---|---|
| Mai Po Ventilation Building Works Area (MPV) | MPV-1 | • Fishponds in Wetland Conservation Area (WCA) within 500 m from the boundary of MPV works area | Monthly | • During construction phase of MPV works area |
| Access road leading to TPP | TPP-1/2/3 | • The whole alignment of drainage channel KT5 (TPP-1)<br>• The section of drainage channel 95CD along the proposed alignment of access upgrading (TPP-2)<br>• The whole alignment of abandoned meander of conservation interest 43CD-1 (TPP-3) | Monthly | • During upgrading and operation of access road for construction phase activities |

| Works Area | Survey Site | Monitoring Location | Monitoring Frequency | Monitoring Duration |
|---|---|---|---|---|
| Access road leading to SSS / ERS | SSS-2a 1 | • The whole alignment of abandoned meanders of conservation interest 95CD-4 | Monthly | • During upgrading and operation of access road for construction phase activities 1 |
| | SSS-3 | • Agricultural land within 500 m from the boundary of SSS/ ERS works area between Shek Kong Road and Kam Sheung Road | Monthly | • During construction phase of SSS / ERS works area |
| Tse Uk Tsuen Works Area (TUW) | TUW – 1/2 (TUW-2 grouped with PHV-1 due to overlapping of survey area) | • Agricultural land within 500 m from the boundary of TUW works area to the south of Kam Sheung Road (TUW-1)<br>• Woodland in Conservation Area (CA) within 500 m from the boundary of TUW works area (TUW-2) | Monthly | • During construction phase of TUW works area |
| Pat Heung Ventilation Building Works Area (PHV) | PHV-1 (grouped with TUW-2 due to overlapping of survey area) | • Woodland in CA within 500m from the boundary of PHV works area | Monthly | • During construction phase of PHV works area |

Table 4-6 Requirement of Construction Impact Monitoring for Avifaunal Group

Note: 1. Despite that upgrading of access road leading to SSS has yet commenced, monthly monitoring was commenced due to commencement of construction activities in the vicinity of SSS-2a.

### *4.4.2 Monitoring of impact at fishpond due to noise/vibrations*

In accordance with the Monitoring and Emergency Response Plan, during construction stage, air-borne noise monitoring should be carried out at the respective monitoring location at nearby fishpond (Appendix D) when there are project-related construction activities being undertaken within a radius of 300m from the monitoring location. One set of 30-minute measurement at a frequency of once a week when the above-mentioned construction activities are underway.

***Monitoring methodology***

With reference to the Monitoring and Emergency Response Plan, the noise acceptance criteria of 75 dB(A) was adopted for the assessment of adverse impact to fisheries due to air-borne noise.

***Monitoring location, frequency and duration***

The nearest fish-pond located in the vicinity of the works area in Mai Po as shown in Appendix D was identified as a representative air-borne and ground-borne noise/vibration monitoring location.

During construction stage, routine air-borne noise monitoring would be carried out at the respective monitoring location when there are project-related construction activities being undertaken within a radius of 300m from the monitoring station. One set of 30-minute measurement at a frequency of once a week when the above-mentioned construction activities are underway.

***Action and Limit Levels***

The Action and Limit levels for air-borne noise are defined in the table below. Should non-compliance of the noise quality criteria occur, actions in accordance with the Table 4-7 as should be carried out.

| Time Period | Action Level | Limit Level |
|---|---|---|
| All time period | When one documented complaint related to adverse impact to fisheries from fish-pond operator or any abnormal ecological monitoring results | 75 dB(A) for air-borne noise |

Table 4-7: Action and Limit Level for potential impact at fishpond due to air-borne noise

### *4.5 Landscape and Visual*

Monitoring of the implementation of the tree protection measures during construction phase was conducted in accordance with the requirements of EP condition 2.15 (iv). The landscape and visual monitoring and auditing was conducted in accordance with the requirement in Section 5.6 of the EM&A Manual throughout the construction stage.

### *4.6 Cultural Heritage*

#### *4.6.1 Archaeology*

Further archaeological investigation was completed at Shek Kong Stabling Sidings (SSS) in accordance with the Archaeological Action Plan.

No monitoring and reporting is required at Lung Kwu Sheng Tan (LKST) since the land has been handed over to government.

#### *4.6.2 Built Heritage*

Vibration monitoring was ceased since no more construction works was carried out within the 100m buffer area.

### *4.7 Landfill Gas*

Monitoring was carried out in this reporting month for construction within the Ngau Tam Mei Landfill (NTML) consultation zone. No monitoring was carried out at Gin Drinker Bays Landfill (GDBL) since there was no construction carried out within consultation zone.

# 5 MONITORING RESULT

## *5.1 Air Quality*

The monitoring schedule is shown in Appendix E. Results of 24-hour TSP level and the graphical presentation of monitoring results are shown in Appendix F.

In the reporting month, no exceedance of 24-hour TSP was recorded.

## *5.2 Noise*

The monitoring schedule is shown in Appendix E. Results of measured noise level, in terms of $L_{eq}$(30min) and graphical presentations are presented in Appendix F.

### *5.2.1 Air-borne Noise*

In the reporting month, no exceedance of air-borne noise Limit Level was recorded.

There was one noise exceedance of Action Level in the reporting month. Details of the complaint has been contained in Section 7.

### *5.2.2 Ground-borne Noise*

Ground-borne noise monitoring is not required in the reporting month, as all TBM tunnelling work has been completed.

## *5.3 Ecological Monitoring*

### *5.3.1 Ecological Monitoring on Avifaunal Communities*

*Ecological monitoring at MPV*

The weather conditions and other noticeable activities occurring within or in the vicinity of the survey area during the monitoring were summarized in Table 5-1. The MPV-1 survey site comprised about 20 fishponds with most of them being actively managed (Figure 1 in Appendix D refers). Commonly observed pond management activities during the monitoring include pond aeration, removal of bund weeds and fish feeding. Ongoing construction activities were also recorded at the works area of the project "Proposed Comprehensive Development at Wo Shang Wai, Yuen Long" (hereinafter to be referred to as "Wo Shang Wai Project") located near Point Count

Location MPV-1/P9. The bird species and their abundance recorded during the avifauna monitoring for the reporting month are presented in Appendix G.

| Date | Weather Conditions | Noticeable Activities Observed in the vicinity of MPV-1 Survey Site |
|---|---|---|
| 15 July 2016 | Sunny | • Overhead wires were observed at Point Count Locations MPV-1/P8 (Appendix H refers)<br>• Pond aeration was observed at Point Count Locations MPV-1/P3, MPV-1/P5, MPV-1/P6, MPV-1/P8 and MPV-1/P10 (Appendix H refers)<br>• Non-project related vegetation clearance were observed at pond bunds at Point Count Location MPV-1/P6 |

Table 5-1 Weather condition and noticeable activities observed in the MPV-1 survey site during monitoring in the reporting month

A total of 202 individuals from 23 avifauna species were recorded from the Point Count Locations at MPV-1 in the reporting month (Table 5-2 refers). The total number of species recorded during the monitoring was 28, with Great Egret and Chinese Pond Heron being the dominant species among the recorded avifaunal population. Recorded waterbirds and wetland-dependent species included ardeids, White-breasted Waterhen and Pied Kingfisher. Detailed records of avifauna at MPV-1 survey site are presented in Appendix G.

The monitoring results of the reporting month were compared against the wet season results of the baseline data from August 2009 to October 2009. The total number of bird species recorded was above the baseline range, while the abundance of birds, the number of bird species recorded at Point Count Location and the number of species of conservation importance were within the baseline range (Table 5-2 and Table 5-3 refer).

The monitoring results indicated the fishponds within the survey area were utilized by waterbird and wetland-dependent species in the reporting month during the monitoring. No adverse indirect impacts arising from the project were identified.

| Survey | MPV-1 | |
|---|---|---|
| | No. of Species | Abundance |
| 15 July 2016 | 23 | 202 |
| August 2009 to October 2009[1] | 21 – 25 | 196 – 294 |

Note:

1. Seasonal range obtained from baseline bird survey.

Table 5-2 Number of species and abundance of avifauna recorded in the reporting month during bird survey at the point count locations of the MPV-1 survey site

| **Month** | **Total Number of Species Recorded [1,2]** |
|---|---|
| 15 July 2016 | 28 (5) |
| August 2009 to October 2009[3] | 21 – 25 (4 – 6) |

Note:

1. Total number of species recorded included the avifauna recorded from both point count locations and walk transect.

2. The numbers in brackets denote the number of species of conservation interest.

3. Seasonal range obtained from baseline bird survey.

Table 5-3 Total Number of Bird Species Recorded in the Reporting Month Avifauna Monitoring at the MPV-1 survey site

*Ecological monitoring at Tai Kong Po (TPP-1)*

The avifauna monitoring location for the proposed works area of the TPP access road was sub-divided into three survey sites namely TPP-1, TPP-2 and TPP-3. The TPP-1 survey site is a drainage channel (KT5) with gabion / masonry banks at upper portion. The rest of the channel is trapezoidal with vegetated grasscrete banks on both sides of the channel. The downstream end of the channel joins up with a main drainage channel (95CD) (Figure 3 in Appendix D refers).

The weather condition and other noticeable activities occurring within or in the vicinity of the survey area during the monitoring are summarized in Table 5-4. The bird species and their abundance recorded during the avifauna monitoring for the reporting month are presented in Appendix G.

| Date of Monitoring | Weather Condition | Noticeable Activities Observed in the vicinity of TPP-1 Survey Site |
|---|---|---|
| 15 July 2016 | Sunny | • Project-related construction works were recorded along Point Count Locations from TPP-1/P1 to TPP-1/P2 (Appendix H refers)<br>• Hoardings were erected from Point Count Location TPP-1/P1 to TPP-1/P4 (Appendix H refers)<br>• Stockpiling of construction materials placed between Point Count Locations TPP-1/P1 and TPP-1/P4 was observed (Appendix H refers) |

Table 5-4 Weather Condition and Noticeable Activities Observed in the TPP-1 Survey Site during the Monitoring in the Reporting Month

A total of 51 individuals from 14 avifauna species were recorded from the Point Count Locations at TPP-1 in the reporting month (Table 5-5 refers). The total number of species recorded at the survey site during the monitoring was 18. Spotted Dove was the dominant species recorded. Recorded waterbirds and wetland-dependent species included Little Egret and White-breasted Waterhen. Detailed records of avifauna at TPP-1 are presented in Appendix G.

The monitoring results in the reporting month were compared against the wet season results of the baseline data from August 2009 to October 2009. The abundance of birds, the number of bird species recorded at Point Count Locations and the total number of bird species recorded at TPP-1 Survey Site were within the baseline range while the number of species of conservation importance was slightly below the baseline range (Table 5-5 and Table 5-6 refer).

The monitoring results indicated the drainage channel within the survey site was mainly utilized by generalists and waterbirds during the monitoring. As there was only slightly decrease in the number of species of conservation importance, the decrease is likely due to natural fluctuation. No adverse impacts arising from the Project were identified.

| Survey Period | TPP-1 Survey Site | |
|---|---|---|
| | No. of Bird Species | Abundance of Bird Species |
| 15 July 2016 | 14 | 51 |
| August 2009 to October 2009[1] | 11 – 19 | 48 – 281 |

Note:

1. Seasonal range obtained from baseline bird survey.

2. The view to drainage channel KT5 between Point Count Locations TPP-1/P2 and TPP-1/P4 was partially blocked, the abundances counted at these Point Count Locations therefore may not accurately reflect the actual on-site condition.

Table 5-5 Number of Bird Species and Abundance of Bird Species Recorded in the Reporting Month Avifauna Monitoring at the Point Count Locations of the TPP-1 Survey Site

| Survey Period | Total Number of Bird Species Recorded [1,2] |
|---|---|
| 15 July 2016 | 18 (1) |
| August 2009 to October 2009[3] | 11 – 19 (2 – 4) |

Note:

1. Total number of species recorded included the avifauna recorded from both point count locations and walk transect.

2. The numbers in brackets denote the number of species of conservation interest.

3. Seasonal range obtained from baseline bird survey.

Table 5-6 Total Number of Bird Species Recorded in the Reporting Month Avifauna Monitoring at the TPP-1 Survey Site

*Ecological monitoring at Tai Kong Po (TPP-2)*

The weather condition and other noticeable activities occurring within or in the vicinity of the survey area during the monitoring are summarized in Table 5-7. The TPP-2 survey site covered a section of main drainage channel 95CD, which is a concrete trapezoidal channel with grasscrete banks. Plantation of native or landscape vegetation was observed along the embankment of the channel (Figure 2 in Appendix D refers). The bird species and their abundance recorded during the avifauna monitoring for the reporting month are presented in Appendix G.

| Date of Monitoring | Weather Condition | Noticeable Activities Observed in the vicinity of TPP-2 Survey Site |
|---|---|---|
| 15 July 2016 | Sunny | • Nil |

Table 5-7 Weather Condition and Noticeable Activities Observed in the TPP-2 Survey Site during the Monitoring in the Reporting Month

A total of 53 individuals from 12 avifauna species were recorded from the Point Count Locations at TPP-2 in the reporting month (Table 5-8 refers). The total number of species recorded during the monitoring was 17, with Eurasian Tree Sparrow being the dominant species. Wetland-dependent and waterbird species recorded included Little Egret and Little Ringed Plover. Detailed records of avifauna at TPP-2 are presented in Appendix G.

The monitoring results in the reporting month were compared against the wet season results of the baseline data from August 2009 to October 2009. The bird abundance, number of species recorded at Point Count Locations and number of species of conservation importance were slightly below baseline range while the total number of species recorded was within baseline range (Table 5-8 and Table 5-9 refer).

The monitoring results indicated the main drainage channel within the survey area was utilized by generalists in the reporting month during the monitoring. Since the total number of bird species recorded at survey site was within baseline range and no project-related works or other disturbances were observed in the vicinity of the Survey Site, the slight decrease in bird abundance and the number of bird species recorded at Point Count Location were likely due to natural fluctuation. No adverse impacts from the Project were identified.

| Survey Period | TPP-2 Survey Site | |
|---|---|---|
| | No. of Bird Species | Abundance of Bird Species |
| 15 July 2016 | 12 | 53 |
| August 2009 to October 2009[1] | 14 | 57 – 77 |

Note:

1. Seasonal range obtained from baseline bird survey.

Table 5-8 Number of Bird Species and Abundance of Bird Species Recorded in the Reporting Month. Avifauna Monitoring at the Point Count Locations of the TPP-2 Survey Site

| Survey Period | Total Number of Bird Species Recorded [1,2] |
|---|---|
| 15 July 2016 | 17 (1) |
| August 2009 to October 2009[3] | 14 – 19 (2 – 3) |

Note:

1. Total number of species recorded included the avifauna recorded from both point count locations and walk transect.

2. The numbers in brackets denote the number of species of conservation interest.

3. Seasonal range obtained from baseline bird survey.

Table 5-9 Total Number of Bird Species Recorded in the Reporting Month Avifauna Monitoring at the TPP-2 Survey Site

*Ecological monitoring at Tai Kong Po (TPP-3)*

The weather condition and other noticeable activities occurring within or in the vicinity of the survey area during the monitoring are summarized in Table 5-10. The TPP-3 survey site is an abandoned meander (43CD-1) of conservation interest with natural banks and substratum. The earthen banks of the meander were mostly dominated by grasses and weeds. The section near point count location TPP-3/P1 was found to be usually wet though the water was quite stagnant. Due to its close proximity to a village access road of Kam Hing Wai and Shui Mei Tsuen, this section of meander was subject to higher disturbance from villagers and traffic. Point count locations TPP-3/P2 and TPP-3/P3 were only seasonally wet. During the monitoring in reporting month, point count locations TPP-3/P2 and TPP-3/P3 were dry. The bird species and their abundance recorded during the avifauna monitoring for the reporting month are presented in Appendix G.

| Date of Monitoring | Weather Condition | Noticeable Activities Observed in the vicinity of TPP-3 Survey Site |
|---|---|---|
| 15 July 2016 | Sunny | • Nil |

Table 5-10 Weather Condition and Noticeable Activities Observed in the TPP-3 Survey Site during the Monitoring in the Reporting Month

A total of 9 individuals from 3 avifauna species were recorded from the Point Count Locations at TPP-3 in the reporting month (Table 5-11 refers). A total of 3 bird species were encountered during the monitoring, with no obvious dominant species observed amongst the recorded individuals. No waterbird or wetland-dependent species were recorded. Detailed records of avifauna at TPP-3 are presented in Appendix G.

The monitoring results in the reporting month were compared against the wet season results of the baseline data from August 2009 to October 2009. The abundance of birds, the number of species recorded at Point Count Locations and the total number of species recorded (including the number of species of conservation importance) were within baseline range (Table 5-11 and Table 5-12 refer).

The monitoring results indicated the abandoned meander within the survey area was utilized mainly by typical generalist species in the reporting month during the monitoring. No adverse impacts arising from the Project were identified.

| **Survey Period** | **TPP-3 Survey Site** | |
|---|---|---|
| | **No. of Bird Species** | **Abundance of Bird Species** |
| 15 July 2016 | 3 | 9 |
| August 2009 to October 2009[1] | 3 – 4 | 4 – 9 |

Note:

1. Seasonal range obtained from baseline bird survey.

Table 5-11 Number of Bird Species and Abundance of Bird Species Recorded in the Reporting Month Avifauna Monitoring at the Point Count Locations of the TPP-3 Survey Site

| **Survey Period** | **Total Number of Bird Species Recorded [1,2]** |
|---|---|
| 15 July 2016 | 3 (0) |
| August 2009 to October 2009[3] | 3 – 4 (0 – 1) |

Note:

1. Total number of bird species recorded included the avifauna recorded from Point Count Locations only as there is no walk transect for TPP-3 survey site.

2. The numbers in brackets denote the number of species of conservation interest.

3. Seasonal range obtained from baseline bird survey.

Table 5-12 Total Number of Bird Species Recorded in the Reporting Month Avifauna Monitoring at the TPP-3 Survey Site

*Ecological monitoring at Shek Kong Stabling Sidings (SSS-2a)*

Monthly avifauna monitoring at SSS-2a was conducted during the construction work in the vicinity of SSS-2a. Construction in the vicinity of SSS-1/2b was yet commenced and ecological monitoring would be conducted according to the construction programme. SSS-2a survey site is an abandoned meander (95CD-4) of conservation interest located in the north of Wan Toi Shan. The meander is adjacent to car repairing workshops and garage. Riparian vegetation was well established although some areas of the banks were lined with concrete. Coverage of water was low and water quality was appeared to be poor. The weather condition and other noticeable activities occurring within or in the vicinity of the survey area during the monitoring are summarized in Table 5-13

| **Date of Monitoring** | **Weather Condition** | **Noticeable Activities Observed in the vicinity of SSS-2a Survey Site** |
|---|---|---|
| 15 July 2016 | Sunny | ● Project-related construction works were observed in the vicinity of Point Count Location SSS-2a/P1 |

Table 5-13 Weather Condition and Noticeable Activities Observed in the SSS-2a Survey Site during the Monitoring in the Reporting Month.

A total of 11 individuals from 5 avifauna species were recorded from the Point Count Locations at SSS-2a in the reporting month (Table 5-14 refers). A total of 5 species were recorded during the monitoring. No wetland-dependent species were recorded. Detailed records of avifauna at SSS-2a are presented in Appendix G.

The monitoring results in the reporting month were compared against the wet season results of the baseline data from August 2009 to October 2009. The abundance of birds, the number of bird species recorded at Point Count Locations and the total number of bird species (including the number of species of conservation importance) were within baseline range (Table 5-14 and Table 5-15 refer).

The monitoring results indicated the abandoned meander within the survey area was utilized by typical generalist species in the reporting month during the monitoring. No adverse indirect impacts arising from the Project were identified.

| Survey Period | SSS-2a Survey Site | |
|---|---|---|
| | No. of Bird Species | Abundance of Bird Species |
| 15 July 2016 | 5 | 11 |
| August 2009 to October 2009[1] | 5 – 7 | 10 – 22 |

Note:

1. Seasonal range obtained from baseline bird survey.

Table 5-14 Number of Bird Species and Abundance of Bird Species Recorded in the Reporting Month Avifauna Monitoring at the Point Count Locations of the SSS-2a Survey Site

| Survey Period | Total Number of Bird Species Recorded [1,2] |
|---|---|
| 15 July 2016 | 5 (0) |
| August 2009 to October 2009[3] | 5 – 7 (0 – 1) |

Note:

1. Total number of bird species recorded included the avifauna recorded from point count locations only as there is no walk transect for SSS-2a survey site.

2. The numbers in brackets denote the number of species of conservation interest.

3. Seasonal range obtained from baseline bird survey.

Table 5-15 Total Number of Bird Species Recorded in the Reporting Month Avifauna Monitoring at the SSS-2a Survey Site

*Ecological monitoring at Shek Kong Stabling Sidings (SSS-3)*

Construction in the vicinity of SSS-1/2b was yet commenced and ecological monitoring would be conducted according to the construction programme. The weather condition and other noticeable activities occurring within or in the vicinity of the survey area during the monitoring are summarized in Table 5-16. The farmland in SSS-3 survey site displayed a distinctive seasonal crop rotation pattern between wet agriculture (*Ipomoea aquatic*) in summer season and dry agriculture (seasonal flowers such as *Gladiolus gandavensis*) in winter season. The bird species and their abundance recorded during the avifauna monitoring for the reporting month are presented in Appendix G.

| Date of Monitoring | Weather Condition | Noticeable Activities Observed in the vicinity of SSS-3 Survey Site |
|---|---|---|
| 15 July 2016 | Sunny | • Dry agricultural activities, such as the planting of Peach (*Prunus persica*), French Bean (*Phaseolus vulgaris*) and Maize (*Zea mays*) were observed at farmland parcels at Point Count Locations SSS-3/P3, SSS-3/P5, SSS-3/P10, SSS-3/P11 and SSS-3/P12<br>• Wet agricultural activities, i.e. the planting of water spinach (*Ipomoea aquatica*), were observed at Point Count Location SSS-3/P4<br>• Audible project-related construction noise was noted near Point Count Location SSS-3/P8<br>• The access path near Point Count Location SSS-3/P6 was blocked due to project-related works<br>• A piece of grassland near Point Count Location SSS-3/P7 was cleared and was being used for non-project related open storage (Appendix H refers) |

Table 5-16 Weather Condition and Noticeable Activities Observed in the SSS-3 Survey Site during the Monitoring in the Reporting Month

A total of 147 individuals from 20 avifauna species were recorded from the Point Count Locations at SSS-3 in the reporting month (Table 5-17 refers). A total of 25 avifauna species were recorded during the monitoring, with Red-whiskered Bulbul being the dominant species. Recorded waterbird species included ardeids and White-breasted Waterhen. Detailed records of avifauna at SSS-3 are presented in Appendix G.

The monitoring results in the reporting month were compared against the wet season data from August 2009 to October 2009. The abundance of birds and the total number of bird species recorded at SSS-3 Survey Site, (including the number of species of conservation importance) were within the baseline range while the number of bird species recorded at Point Count Locations was slightly below baseline range (Table 5-17 and Table 5-18 refer).

The monitoring results indicated the agricultural lands within the survey area were utilized by generalist and waterbird species in the reporting month during the monitoring. The access to Point Count Locations SSS-3/P6 was blocked due to project related works, the bird count records at Point Count Locations could not fully reflect the actual on-site condition.

| Survey Period | SSS-3 Survey Site | |
|---|---|---|
| | No. of Bird Species | Abundance of Bird Species |
| 15 July 2016 | 20 | 147 |
| August 2009 to October 2009[1] | 21 – 27 | 126 – 289 |

Note:

1. Seasonal range obtained from baseline bird survey.

Table 5-17 Number of Bird Species and Abundance of Bird Species Recorded in the Reporting Month Avifauna Monitoring at the Point Count Locations of the SSS-3 Survey Site

| Survey Period | Total Number of Bird Species Recorded [1,2] |
|---|---|
| 15 July 2016 | 25 (2) |
| August 2009 to October 2009[3] | 22 – 27 (2 – 4) |

Note:

1. Total number of species recorded included the avifauna recorded from both point count locations and walk transect.

2. The numbers in brackets denote the number of species of conservation interest.

3. Seasonal range obtained from baseline bird survey.

Table 5-18 Total Number of Bird Species Recorded in the Reporting Month Avifauna Monitoring at the SSS-3 Survey Site

*Ecological monitoring at PHV and TUW*

The weather condition and other noticeable activities occurring within or in the vicinity of the survey area during the monitoring are summarized in Table 5-19. The TUW-1 survey site encompassed a large piece of agricultural land located to the south of Kam Sheung Road (i.e. Tse Uk Tsuen). The agricultural land in TUW-1 survey site shared the habitat characteristics of SSS-3 survey site. Similar seasonal alternation between wet and dry agriculture was also recorded from TUW-1 survey

site (Figure 5 in Appendix D refers). The bird species and their abundance recorded during the avifauna monitoring for the reporting month are presented in Appendix G.

| Date of Monitoring | Weather Condition | Noticeable Activities Observed in the vicinity of TUW-1 Survey Site |
|---|---|---|
| 15 July 2016 | Sunny | • Dry agricultural activities, planting of Peach (*Prunus persica*) was observed near Point Count Location TUW-1/P7 |

Table 5-19 Weather Condition and Noticeable Activities Observed in the TUW-1 Survey Site during the Monitoring in the Reporting Month

A total of 128 individuals from 19 avifauna species were recorded from the Point Count Locations at TUW-1 in the reporting month (Table 5-20 refers). The total number of species recorded during the monitoring was 21, with Barn Swallow being the dominant species. Waterbirds species recorded include ardeids and White-breasted Waterhen. Detailed records of avifauna at TUW-1 are presented in Appendix G.

The monitoring results in the reporting month were compared against the wet season data from August 2009 to October 2009. The number of bird species at Point Count Location were slightly below the baseline range while the abundance of birds and the total number of species recorded at Survey Site TUW-1 (including the number of species of conservation importance) were within the baseline range (Table 5-20 and Table 5-21 refer).

The monitoring results indicated the agricultural lands within the survey site were mainly utilized by generalists and waterbird species in the reporting month during the monitoring. Since the bird abundance and the total number of bird species recorded at survey site were within baseline range and no project-related works or other disturbance were observed in the vicinity of the Survey Site, the slight decrease in the number of bird species recorded at Point Count Location were likely due to natural fluctuation. No adverse indirect impacts arising from the Project were identified.

| Survey Period | TUW-1 Survey Site | |
|---|---|---|
| | No. of Bird Species | Abundance of Bird Species |
| 15 July 2016 | 19 | 128 |
| August 2009 to October 2009[1] | 21 – 24 | 124 – 134 |

Note:

1. Seasonal range obtained from baseline bird survey.

Table 5-20 Number of Bird Species and Abundance of Bird Species Recorded in the Reporting Month Avifauna Monitoring at the Point Count Locations of the TUW-1 Survey Site

| Survey Period | Total Number of Bird Species Recorded [1,2] |
|---|---|
| 15 July 2016 | 21 (2) |
| August 2009 to October 2009[3] | 21 – 24 (2 – 3) |

Note:

1. Total number of species recorded included the avifauna recorded from both point count locations and walk transect.

2. The numbers in brackets denote the number of species of conservation interest.

3. Seasonal range obtained from baseline bird survey.

Table 5-21 Total Number of Bird Species Recorded in the Reporting Month Avifauna Monitoring at the TUW-1 Survey Site

Since the extent of PHV-1 survey site is overlapped with that of TUW-2 survey site, the survey data of the TUW-2 and PHV-1 survey sites were reported collectively. The weather condition and other noticeable activities occurring within or in the vicinity of the survey area during the monitoring are summarized in Table 5-22. The TUW-2 and PHV-1 survey site comprised the woodland in Conservation Area (CA) within 500 m from the boundary of the PHV works area (Figure 6 in Appendix D refers). The bird species and their abundance recorded during the avifauna monitoring for the reporting month are presented in Appendix G.

| Date of Monitoring | Weather Condition | Noticeable Activities Observed in the vicinity of TUW-2 and PHV-1 Survey Site |
|---|---|---|
| 15 July 2016 | Sunny | Nil |

Table 5-22 Weather Condition and Noticeable Activities Observed in the TUW-2 and PHV-1 Survey Site during the Monitoring in the Reporting Month

A total of 11 individuals from 4 avifauna species were recorded from the Point Count Locations at TUW-2 and PHV-1 in the reporting month (Table 5-23 refers). The total number of species recorded during the monitoring was 12. Detailed records of avifauna at TUW-2 and PHV-1 are presented in Appendix G.

The monitoring results in the reporting month were compared against the wet season results of the baseline data from August 2009 to October 2009. The abundance of birds and the total number of species were within baseline range while the number of species of conservation importance was above baseline range. The number of species recorded at Point Count Locations was slightly below baseline range (Table 5-23 and Table 5-24 refer).

The monitoring results indicated the woodland within the survey site was mainly utilized by typical forest birds e.g. Rufous-capped Babbler, Black-throated Laughingthrush and Hwamei; and generalists e.g. Red-whiskered Bulbul, Common Tailorbird and Japanese White-eye during the monitoring. As there was only slightly decrease in the number of bird species, the decrease is likely due to natural fluctuation. No adverse indirect impacts arising from the Project were identified.

| Survey Period | TUW-2 and PHV-1 Survey Site | |
|---|---|---|
| | No. of Bird Species | Abundance of Bird Species |
| 15 July 2016 | 4 | 11 |
| August 2009 to October 2009[1] | 5 – 9 | 9 – 20 |

Note:

1. Seasonal range obtained from baseline bird survey.

Table 5-23 Number of Bird Species and Abundance of Bird Species Recorded in the Reporting Month Avifauna Monitoring at the Point Count Locations of the TUW-2 and PHV-1 Survey Site

| Survey Period | Total Number of Bird Species Recorded [1,2] |
|---|---|
| 15 July 2016 | 12 (2) |
| August 2009 to October 2009[3] | 7 – 13 (0) |

Note:

1. Total number of bird species recorded included the avifauna recorded from both point count locations and walk transect.

2. The numbers in brackets denote the number of species of conservation interest.

3. Seasonal range obtained from baseline bird survey.

Table 5-24 Total Number of Bird Species Recorded in the Reporting Month Avifauna Monitoring at the TUW-2 and PHV-1 Survey Site

### *5.3.2 Monitoring of impact at fishpond due to noise*

In accordance with the Monitoring and Emergency Response Plan, impact noise monitoring was conducted at fish pond on weekly basis for assessment of impact at fishponds due to noise. The results are displayed in the table below. It was revealed from the monitoring results that all monitoring results were within the Limit Level of 75 dB(A). Based on the monitoring results, there was no adverse impact at fishpond due to noise.

| Monitoring Date | $L_{eq}$, dB(A) |
|---|---|
| 05/07/2016 | 55 |
| 12/07/2016 | 53 |
| 19/07/2016 | 54 |
| 26/07/2016 | 53 |

Table 5-25 Noise monitoring results at fishpond in Mai Po

### *5.4 Waste Management*

The quantities of waste disposed from this Project during the reporting month and the previous 2 months are summarized in the table below. Inert C&D materials are disposed to public fills unless otherwise specified.

| **Reporting Month** | **Inert C&D [1, 14] Materials (tonnes)** | **Non-inert C&D [2] Materials (tonnes)** | **Chemical Waste (Litre)** |
|---|---|---|---|
| Contract 802[3] | | | |
| May 2016 | 0 | 0 | 0 |
| Jun 2016 | 0 | 0 | 0 |
| Jul 2016 | 0 | 0 | 0 |
| Contract 810A[4] | | | |
| May 2016 | 18,825.54 {185.25} | 1,629.12 | 2,500 |
| Jun 2016 | 15,043.56 {0.00} | 2,202.29 | 41 |
| Jul 2016 | 10,491.59 {0.00} | 861.64 | 652 |
| Contract 810B[5] | | | |
| May 2016 | 3,215.90 {0.00} | 1,101.01 | 0 |
| Jun 2016 | 13,480.62 {0.00} | 1,035.01 | 0 |
| Jul 2016 | 7,235.64 {0.00} | 750.38 | 0 |
| Contract 811A [13] | | | |
| May 2016 | 0 | 21.10 | 0 |
| Jun 2016 | 0 | 24.52 | 0 |
| Jul 2016 | 0 | 0 | 0 |
| Contract 811B[6] | | | |
| May 2016 | 2,842.72 {0.00} | 437.33 | 0 |
| Jun 2016 | 2,454.13 {0.00} | 866.93 | 0 |
| Jul 2016 | 7,076.75 {0.00} | 512.30 | 0 |
| Contract 820[7] | | | |
| May 2016 | 136.95 | 19.35 | 0 |
| Jun 2016 | 0 | 6.31 | 0 |
| Jul 2016 | 0 | 11.71 | 0 |
| Contract 821 | | | |
| May 2016 | 0 | 0 | 0 |
| Jun 2016 | 0 | 0 | 0 |
| Jul 2016 | 0 | 0 | 0 |
| Contract 822[8] | | | |
| May 2016 | 2,354.81 | 60.70 | 0 |
| Jun 2016 | 715.93 | 20.03 | 0 |
| Jul 2016 | 713.75 | 46.56 | 0 |
| Contract 823A[9] | | | |
| May 2016 | 765.90 | 221.72 | 0 |
| Jun 2016 | 3,499.54 | 118.22 | 7,200 |
| Jul 2016 | 644.49 | 74.76 | 0 |
| Contract 823B[10] | | | |
| May 2016 | 1,019.82 | 96.39 | 0 |
| Jun 2016 | 511.54 | 86.88 | 0 |
| Jul 2016 | 3,398.41 | 55.93 | 0 |
| Contract 824[11] | | | |
| May 2016 | 1,421.90 | 130.10 | 0 |
| Jun 2016 | 806.90 | 340.70 | 0 |
| Jul 2016 | 329.60 | 56 | 0 |
| Contract 825[12] | | | |

| Reporting Month | Inert C&D [1, 14] Materials (tonnes) | Non-inert C&D [2] Materials (tonnes) | Chemical Waste (Litre) |
|---|---|---|---|
| May 2016 | 866 | 27 | 0 |
| Jun 2016 | 222 | 8 | 0 |
| Jul 2016 | 0 | 7 | 0 |
| Contract 826 | | | |
| May 2016 | 0 | 11.17 | 0 |
| Jun 2016 | 0 | 0 | 0 |
| Jul 2016 | 0 | 0 | 0 |

Table 5-26 Summary of construction waste generated and disposed

Note:

1. Inert C&D materials include bricks, concrete, building debris, rubble and excavated soil.
2. Non-inert C&D materials include steel, paper / cardboard packaging waste, plastics and other wastes such as general refuse.
3. Alternative disposal site for inert C&D Material from 802 include NENT landfill (re-used as cover material), Sai Kung Tai Po Tsai and Nam Cheong Station Property Development Projects.
4. Alternative disposal sites for inert C&D material from 810A include SENT Landfill, Zhongshan & Zhuhai, Mainland China and W300 in D.D.438, Ngau Kok Wan, Tsing Yi.
5. Alternative disposal sites for inert C&D Material from 810B include Central-Wan Chai Bypass (Typhoon Shelter and HKCEC) and Zhongshan Torch Hi-Tech Zone.
6. Alternative disposal sites for inert C&D Material from Contract 811B include Widening of Tolo highway / Fanling Highway (HY/2009/908), SIL Contract 908, HY/2009/15 – Central WanChai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section), MaXin District Development, Zhong Shan.
7. Liquid chemical waste (waste oil) reported in litres (L), while solid waste such as waste battery reported in tonnes (tons).
8. Alternative disposal sites for inert C&D Material from Contract 822 include Lam Tei Quarry, WENT landfill, Property Development at Lok Wo Sha, Drainage Services Department Contract No. DC/2010/02 Drainage Improvement Works in Shuen Wan, Highways Department, Project No. HY/2009/18, Central – Wan Chai Bypass – Central Interchange, Contract no. HY/2012/09 Improvement of Kam Pok Road, Highway Contract HY/2013/01 Hong Kong Boundary Crossing Facilities, and Contract No. SS C505 Construction of Liantang/Heung Yuen Wai Boundary Control Point.
9. Alternative disposal sites for inert C&D Material from Contract 823A include NENT landfill (re-used as cover material) and Shui Mei Tsuen.
10. Alternative disposal sites for inert C&D Material from Contract 823B include WENT landfill, CCSV, Pak Fu Shan (DC/2011/06) and Pillar Point (DC/2008/03).
11. Alternative disposal sites for inert C&D Material from Contract 824 include recycle vendor at Lung Kwu Sheung Tan for re-use/recycle. Chemical waste, if any, was collected for recycle.
12. No alternative disposal sites for inert C&D Material from Contract 825 in this month.
13. Solid waste such as waste battery and paint cans are reported in kilograms (kg) and liquid chemical waste such as lube and paint are reported in litres (l). Alternative disposal sites for inert C&D Material from 811A include Central-Wan Chai Bypass (Typhoon Shelter and HKCEC) and Zhongshan Torch Hi-Tech Zone.

14 Figures in { } denotes the quantity of marine sediment disposal not included in inert C&D Material.

The cumulative quantities are summarized as follows.

| Inert C&D Materials (tonnes) | Marine Sediment Materials (tonnes) | Non-inert C&D Materials (tonnes) | Chemical Waste (Litre) | Chemical Waste (Kg) |
|---|---|---|---|---|
| 22,127,900.75 | 1,764,450.00 | 130,064.40 | 378,469.50 | 19,792.00 |

### *5.5 Landscape and Visual*

#### *5.5.1 Monitoring Requirement*

A Certified Arborist was employed and has conducted inspection and audits and found that the tree protection works being carried out by the civil works and transplanting contractors were in accordance with EP/EIA.

Monitoring of the implementation of landscape and visual aspect including the tree protection measures during construction phase was conducted in accordance with the requirements of EP condition 2.15 and Section 5.6 of the EM&A Manual.

#### *5.5.2 Audit Result*

Regular monitoring and audit was undertaken in accordance with the requirement of EP condition 2.15 and Section 5.6 of the EM&A Manual.

Tree Transplanting Works at Contract 801

Regular arboricultural maintenance work, e.g. weedings, spraying of fungicides and insecticides and watering were implemented in two nursery sites. Dead/irreparable damaged trees shall be removed and replaced. New incidents of fungal growth were observed and need to be removed. Repeated application of fungicide, pest control, thinning work, root ball reinforcement should be continuously implemented. Unwanted vegetation (climbers) on the replanted trees at Kwai Chung site should be removed, and any nest should be eradicated by insecticide to promote the tree health.

Tree Protection Work 802

Frequent watering shall be applied to the replanted trees to promote tree health.

Tree Protection Work 810A
A tree branch with fungal fruiting should be removed. (Kwai Fong)

A tree branch was observed pressing on a container in the construction site. Measures, such as relocation of container, should be considered. Electrical wires and tarpaulin hanging on some tree branches should be removed. Hanging dead branches from some trees should also be removed. Proper tree protection zones should be setup for the retained trees. Frequent watering to the newly planted trees should be conducted to promote tree health. (Previously 811A Site)

Tree Protection Work 810B
No major observation.

Tree Protection Work 811B
No major observation.

Tree Protection Work 816D
The tree T032 has been uprooted, the contractor was reminded to take mitigation measure. Hanging branch and fallen tree should be removed.

Tree Protection Work 820
No major observation.

Tree Protection Work 821
No major observation.

Tree Protection Work 822
Hanging branch at Shek Yam has been removed, while broken branches for trees in Pat Heung shall be removed. Tree protection zone for trees in Pat Heung site shall be established, and construction wastes and rocks near the tree trunks should be removed. A dead transplant tree in Pat Heung shall be removed.

Tree Protection Work 823A
No major observation.

Tree Protection Work 823B
Some tree protection zones were not properly maintained. Status of leaning tree T3596 remained unchanged. A branch of T3837 needs to be pruned. A large cavity in

T14636 was observed and some hangers were found and should be removed. Tree T3772 was fallen and T3771 was observed in poor health condition, the Contractor was recommended to remove the trees following the relevant statutory procedures. The Contractor should clear the unwanted Leucaena seedlings to ensure healthy growth of the newly planted trees.

Tree Protection Work 824

A fallen tree at NTM has been removed.

Tree Protection Work 825

Tree protection zone shall be properly maintained for T1539 and other retained tree inside the site. Hanging and broken branches shall be removed.

Tree Protection Work 830

Hangers found on the trees should be removed. Construction materials stacking too close to the trees should be removed.

### *5.6 Cultural Heritage*

No construction work was performed within 100m buffer area from Cheung Yuen (LET-06) in the reporting month; hence no vibration monitoring was performed.

### *5.7 Landfill Gas*

No monitoring was carried out in this reporting month since there was no construction within Gin Drinker Bays Landfill (GDBL) consultation zone. Monitoring was carried out in the reporting month within the Ngau Tam Mei Landfill (NTML) and no exceedance was recorded.

# 6 SITE INSPECTION

## *6.1 Regular Site Inspection*

Regular site inspections on all environmental aspects under the EM&A Manual were attended by representatives from ET and Contractors. The site inspections were carried out at 810A/B and 811B in West Kowloon, 820/821 in Nam Cheong, 822 in Pat Heung, Shing Mun, Shek Yam and So Kwun Wat, 823A/B in Shek Kong Stabling Sidings, 824 in Tai Kong Po and Ngau Tam Mei, 825 in Mai Po, 826 in Mai Po and Siu Lam Barging Point and dates are shown in the following table. In addition to the regular site inspections attended by ET and Contractors, monthly IEC environmental audits attended by IEC, ET and Contractors were held on 12 July 2016 for 810A; 6 July 2016 for 810B; 12 July for 811B; 19 July 2016 for 820; 12 July 2016 for 822; 20 July 2016 for 823A; 20 July 2016 for 823B; 8 July 2016 for 824 and 14 July 2016 for 825.

| **Contract** | **Date of Site Inspections** |
|---|---|
| 810A | 7/7, 12/7, 20/7 and 28/7 |
| 810B | 6/7, 13/7, 20/7 and 26/7 |
| 811B | 4/7, 12/7, 18/7 and 26/7 |
| 820 | 8/7, 14/7, 19/7 and 29/7 |
| 822 | 6/7, 12/7, 22/7 and 26/7 |
| 823A | 6/7, 15/7, 20/7 and 25/7 |
| 823B | 6/7, 15/7, 20/7 and 25/7 |
| 824 | 8/7, 12/7, 19/7 and 26/7 |
| 825 | 7/7, 14/7, 21/7 and 28/7 |
| 826 [1] | Nil |

Table 6-1: Date of site inspection

Note:

1. The works area at MPV area by Contract 826 has handed-over to E&M Contractor. Therefore no site inspection was conducted after 27/4.

All observations have been recorded in the audit checklist and passed to the Contractor together with the appropriate recommended mitigation measures where

necessary. The key observations from these site inspections and Contractor's follow-up action are summarized in Table 6-2 below.

| Item | Description | Contractor's Follow-up Action(s) Undertaken |
|---|---|---|
| Contract 810A | | |
| 1 | Chemical containers were stored on site without drip tray. | Drip tray has been provided accordingly. |
| 2 | The NRMM label was not properly displayed at the air compressor used on site. | The NRMM label should be displayed clearly at the plant. |
| Contract 810B | | |
| 1 | No noise insulating fabric was adopted during surface reinstatement at barging facilities at seafront. | Noise insulating fabric has been used to wrap the breaking tip before the commencement of works. |
| 2 | Flip doors of concrete pump was not close when work was in progress. | The frontline was reminded to close the flip doors of concrete pump when concreting is in progress. |
| Contract 811B | | |
| 1 | The exposed surface around PTI was dry and dusty. | Water spraying has been implemented at the concerned area regularly. |
| Contract 820 | | |
| | Nil observation. | |
| Contract 822 | | |
| 1 | Inadequate prevention measures for site runoff was observed near the stream in Pat Heung. | Sandbags were in place to trap the runoff. |
| 2 | Some debris were found at stream at Pat Heung and at the wastewater discharge point in Shing Mun, respectively. | The debris were removed. |
| 3 | No attendance for wheel washing for exit vehicles was observed | Manual wheel washing is now provided. |
| Contract 823A | | |
| 1 | Chemical was found without drip tray. | Chemical drums have been cleared. |
| 2 | Sump pit was found full of debris. | Sump pit was cleared. |
| 3 | No dust suppression measure was provided to stockpile. | Stockpile was covered. |
| Contract 823B | | |
| 1 | Sump pits were found full of silt. | Sump pit was cleared. |

| Item | Description | Contractor's Follow-up Action(s) Undertaken |
|---|---|---|
| 2 | Haul road was found dry and dusty. | Watering has been applied to the dry haul road for dust suppression. |
| 3 | Chemical was found without drip tray. | Drip tray has been provided. |
| Contract 824 | | |
| 1 | Some soil with oil stain was observed at area of abandoned temporary chemical storage. | Oil stain was removed. |
| 2 | Sandbags for prevention of muddy surface runoff were observed broken. | Replacement of broken sand bags was provided. Clearance of leaked sand/sediment was arranged. |
| 3 | Temporary stockpile area was not properly confined. Mud trail was observed on public access road. | The blockage at the area was strengthened by sandbags with cement paste and water barriers. Clearance of mud trail was arranged. |
| Contract 825 | | |
| 1 | Loose material was observed at stockpile area. | Loose material was compacted and some area was covered. |

Table 6-2 Summary of site inspections, recommendations and follow-up actions

### *6.2 Other Site Inspection*

Groundwater level monitoring in accordance with the Groundwater Monitoring and Contingency Plan for Contract 826 is being implemented. There were no Alert, Action and Alarm (AAA) Levels triggered.

# 7 NON-COMPLIANCE AND DEFICIENCY

## *7.1 Summary of Complaint*

For this reporting month, three environmental complaints were referred from EPD. There are a total of 235 environmental complaints since commencement of the construction. The complaints were handled in accordance to the EM&A Manual and relevant parties including the Engineer's Representative and IEC were informed of the complaint.

A complaint was referred from EPD on 13 July 2016 regarding muddy water discharged near the West Kowloon Terminus construction site. The complaint handling procedures in accordance with the EM&A Manual has been taken. Through the case investigation, no muddy water discharge could be identified at the sloping seawall next to the outfall of the public drain. The wastewater treatment facilities and the mitigation measures along the seafront have been checked and in good order. Nevertheless the Contractors and their subcontractors will continue to maintain the water controls on site in order to minimize the risk and ensure that all related environmental ordinances are fully complied with.

A complaint was referred from EPD on 15 July 2016 regarding muddy water from construction site of Ngau Tam Mei Ventilation Building Shaft. The complaint handling procedures in accordance with the EM&A Manual has been taken. Through the case investigation, the preventive measures implemented by Contractor, including placing sand bags, covering inactive soil/slope with tarpaulin sheet, use of water pumps, etc., were considered effective to prevent muddy runoff. Moreover, the treated water was observed clear during our regular site inspection. On 13 July 2016, enhancement of preventive measures for washing off of muddy water from temporary stockpile to adjacent access road was required during heavy rainstorm. The Contractor has strengthened the blockage by sandbags with cement paste and water barriers. The Contractor was reminded to maintain preventive measures and closely monitoring.

A complaint was referred from EPD on 20 July 2016 regarding construction noise generated from West Kowloon Terminus Approach Tunnel construction site. The complaint handling procedures in accordance with the EM&A Manual has been taken. Through the case investigation, Through the case investigation, it was found that practical noise mitigation measures have been implemented on site before the

commencement of noisy works. The Contractors and their subcontractors have been reminded to maintain the noise control on site continuously in order to minimize the potential disturbance to the nearby residents.

### *7.2 Summary of Exceedance*

In the reporting month, no exceedance of air-borne noise Limit Level was recorded. One exceedance of air-borne noise Action Level was recorded, details can be referred to Section 7.1 above.

In the reporting month, no exceedance of 24-hour TSP Action Level and Limit Level was recorded.

### *7.3 Summary of Notification of Summons, Prosecutions, Non-compliance and Corrective Actions*

No notification of summons, non-compliance and prosecution was received during the reporting period.

# 8 FUTURE KEY ISSUES

## *8.1 Construction Works in Coming Months*

Works to be undertaken for the following months are summarized below. The works presented below is tentative and subject to change in actual construction programme.

| |
|---|
| ***Contract 802 (Works Area Q)*** |
| Minor reinstatement of Entrance A of Nam Cheong Station |
| ***Contract 805 (Works Area N & O)*** |
| Nil (Construction works completed) |
| ***Contract 805 (Works Area S)*** |
| Nil |
| ***Contract 810A (Works Area V1)*** |
| Excavation and site formation; Slab construction; Column installation; Erection and dismantling of falsework and formwork; Cruciform column encasement; Strut and bracing installation; Rebar fixing; Welding; Concrete curing; Bored pile head trimming; Blinding; Cleaning Construction Joint (CJ) and welding coupler; Rebar fixing to column and forming column drop; Concreting; Delivery of oversized steel structures; Erection of column head; Temporary support and platform fabrication; Wall construction; Welding to cathodic protection; and Architectural Builders Works and Finishes (ABWF) |
| ***Contract 810A (Works Area J, Y, AG)*** |
| Material Storage |
| ***Contract 810B (Works Area V1)*** |
| Preboring, Installation/Dismantling of Strutting; Bored Piling; Sheet piling; Excavation Lateral Support (ELS) Work; Structural Works of Sea Water Intake Chamber; Bulk Excavation; Concreting, Jet Grouting; Station Structure Construction Work; Utility Diversion & Piling Works; Structural Works of Noise Mitigation Deck; Construction of Austin Road West (ARW) Underpass; Construction of Sewerage Pipeline & Manholes; Haul |

| |
|---|
| Road Improvement Work; Bottom Up Erection of Formwork; Overhead Track Exhaust (OTE) and Platform installation at B4 slab; Coring / Cutting Openings; and Screen Wall Construction at B4 slab |
| ***Contract 810B (Works Area W)*** |
| Operation of Barging Facilities |
| ***Contract 810A (Works Area V2)*** |
| ABWF in MKV, landscaping, road reinstatement |
| ***Contract 810A (Works Area U)*** |
| Site Office |
| ***Contract 811B (Works Area V2)*** |
| Waterproofing to Approach Tunnel; Backfilling to Approach Tunnel; Casting of wall on tunnel top slab Y8c; Casting of sump pit at B4 grid S11; Casting of column at B4, B3, and B2 and internal RC structures; Removal of temporary stanchions at B4, B3 and B2; Excavation and casting of PTI pile caps, ground beams and tie beams; Construct PTI Landscaped Deck columns and deck structures; Construct PTI plant building under deck LD6a and LD6b; Construct WKP above ground building; LCR Underpass SB (northern section) excavation and RC works; Sewer /Storm pipe installation and manhole construction; Removal of temporary traffic decks at temp Jordan Road (remaining in EAA area); Install temporary platform at B2 and construct EAA from B2 to B1 to GF; Preparation works for removal of temporary footbridges; Removal of temporary footbridge within main site; Excavation and construction of Footbridge 14 pile caps PC7 and PC8; Construction of temporary footbridge footing / pier; Removal of bridge deck concrete on temporary footbridge; and Relocate temporary footbridge span |
| ***Contract 811B (Works Area Y)*** |
| Operation of Nam Cheong Barging Point |
| ***Contract 810A (Works Area L)*** |
| Material Storage Area |
| ***Contract 820 (Works Area M)*** |

| |
|---|
| Nil |
| ***Contract 820 (Works Area P)*** |
| ABWF in ventilation building |
| ***Contract 820 (Works Area Q)*** |
| Material storage |
| ***Contract 820 (Works Area R)*** |
| Nil (Construction works completed) |
| ***Contract 816D (Works Area T)*** |
| Site Office |
| ***Contract 821 (Works Area J)*** |
| Nil (construction works completed) |
| ***Contract 822 (Works Area F)*** |
| Backfill the openings; Concrete remedial work; Brick wall work - reinstatement |
| ***Contract 822 (Works Area G)*** |
| Roof waterproofing; Underground drainage construction; Fence wall footing construction; External works & drainage construction |
| ***Contract 822 (Works Area H)*** |
| Construction material storage |
| ***Contract 822 (Works Area I)*** |
| Nil (construction works completed) |
| ***Contract 822 (Works Area K)*** |
| Site Office |
| ***Contract 822 (Works Area AC)*** |
| Site reinstatement |

| |
|---|
| ***Contract 822 (Works Area AE)*** |
| Nil (construction works completed) |
| ***Contract 823A and 823B (Works Areas D and D1)*** |
| Superstructure works for buildings, road and other associated facilities, backfilling, reinstatement, landscaping and river habitat restoration works |
| ***Contract 823A (Works Area E)*** |
| Backfilling and reinstatement |
| ***Contract 823B (To Kau Wan Works Areas)*** |
| Nil |
| ***Contract 810A (Works Areas Z)*** |
| Nil (construction works completed) |
| ***Contract 824 (Works Area B)*** |
| Road and retaining wall construction<br>Construction of ventilation building |
| ***Contract 824 (Works Area C)*** |
| EVA road/drainage construction<br>Backfilling<br>Construction of EAP building |
| ***Contract 824 (Works Area AF)*** |
| N/A, land returned to the Government |
| ***Contract 825 (Works Area A)*** |
| Backfilling, retaining wall, road and drainage construction. |
| ***Contract 810A (Works Area AA)*** |
| Material Storage |
| ***Contract 826 (Works Area A)*** |
| Repairing works |

Table 8-1 Summary of construction works in coming months

Impact monitoring would be continued according to the construction programme.

### *8.2 Monitoring Schedule for Next Month*

The tentative schedule of TSP, noise and ecological monitoring for the next reporting period is presented in Appendix E.

# 9 CONCLUSIONS

The Report presents the results of EM&A works and the impact monitoring for the construction works of the XRL project undertaken during the period of from 1 to 31 July 2016. The major construction activities in the reporting period included works in the West Kowloon Works Areas, Nam Cheong, Kwai Chung, Shing Mun, Shek Yam, Pat Heung, Shek Kong, Tai Kong Po, Ngau Tam Mei, Mai Po Works Area and Barging Points.

Impact monitoring for air quality and noise were conducted in accordance with the EM&A Manual in the reporting period. No exceedance of air-borne noise Limit Level was recorded, one Action Level exceedance was recorded. In the reporting month, no 24-hour TSP Action Level/Limit Level exceedance was recorded. For the ecological monitoring, spring migrants and summer visitors were recorded at most of the survey sites, showing a seasonal change in species composition. Survey results in July 2016 were compared to wet season baseline results from August 2009 to October 2009. The bird abundance and number of species recorded at most of the Survey Sites were either slightly above the baseline range or within the baseline range. The slight drop in bird abundance and number of species record at Survey Sites TPP-2 and slight drops in number of species record at at TUW-1 and TUW-2 and PHV-1 were likely to be caused by natural fluctuation as neither project-related works nor other disturbance were observed in the vicinity of the Survey Sites. Due to the blocked access to Point Count Location SSS-3/P6, bird count records at Survey Site SSS-3 could not fully reflect the actual on-site condition. Nevertheless, only the number of bird species recorded at Survey Site SSS-3 was slightly below baseline range, while other records within the baseline range. No adverse indirect impacts arising from the Project were identified.

No notification of summons, non-compliance and prosecution was received during the reporting period.

For the reporting month, three environmental complaints were referred from EPD. The environmental complaints received were related to muddy water discharged near the West Kowloon Terminus construction site on 13 July 2016, muddy water from construction site of Ngau Tam Mei Ventilation Building Shaft on 15 July 2016, and construction noise generated from West Kowloon Terminus Approach Tunnel

construction site on 20 July 2016. Complaint investigations are being conducted in accordance with the complaint handling procedure in the EM&A Manual.

Site inspections were conducted regularly to monitor proper implementation of environmental pollution control and mitigation measures for the Project. The ET would continue the implementation of the environmental monitoring and audit programme in accordance to the EM&A Manual and to a level consistent with MTRCL's Corporate Sustainability Policy.

# Appendix A

# Works Area

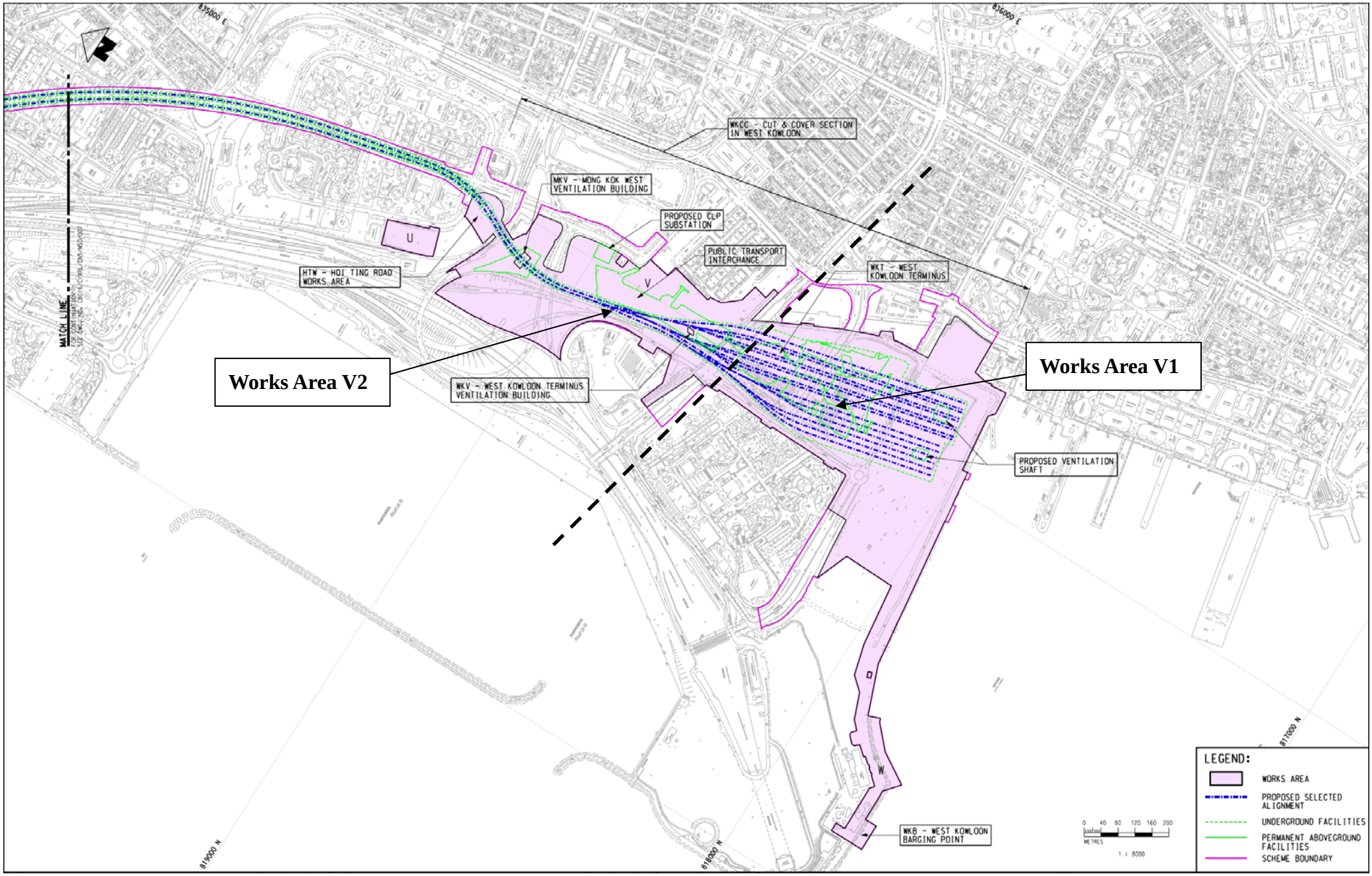
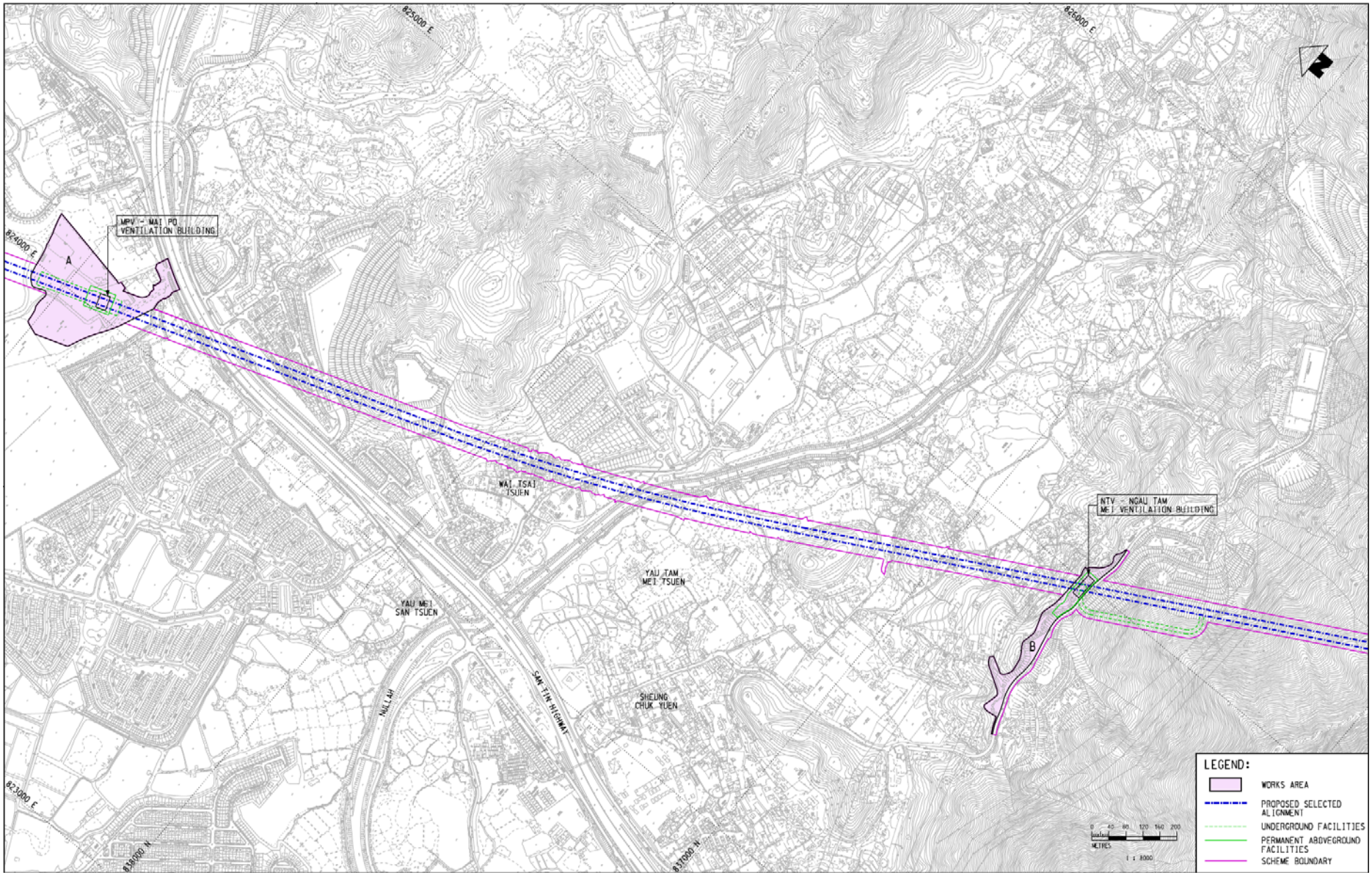
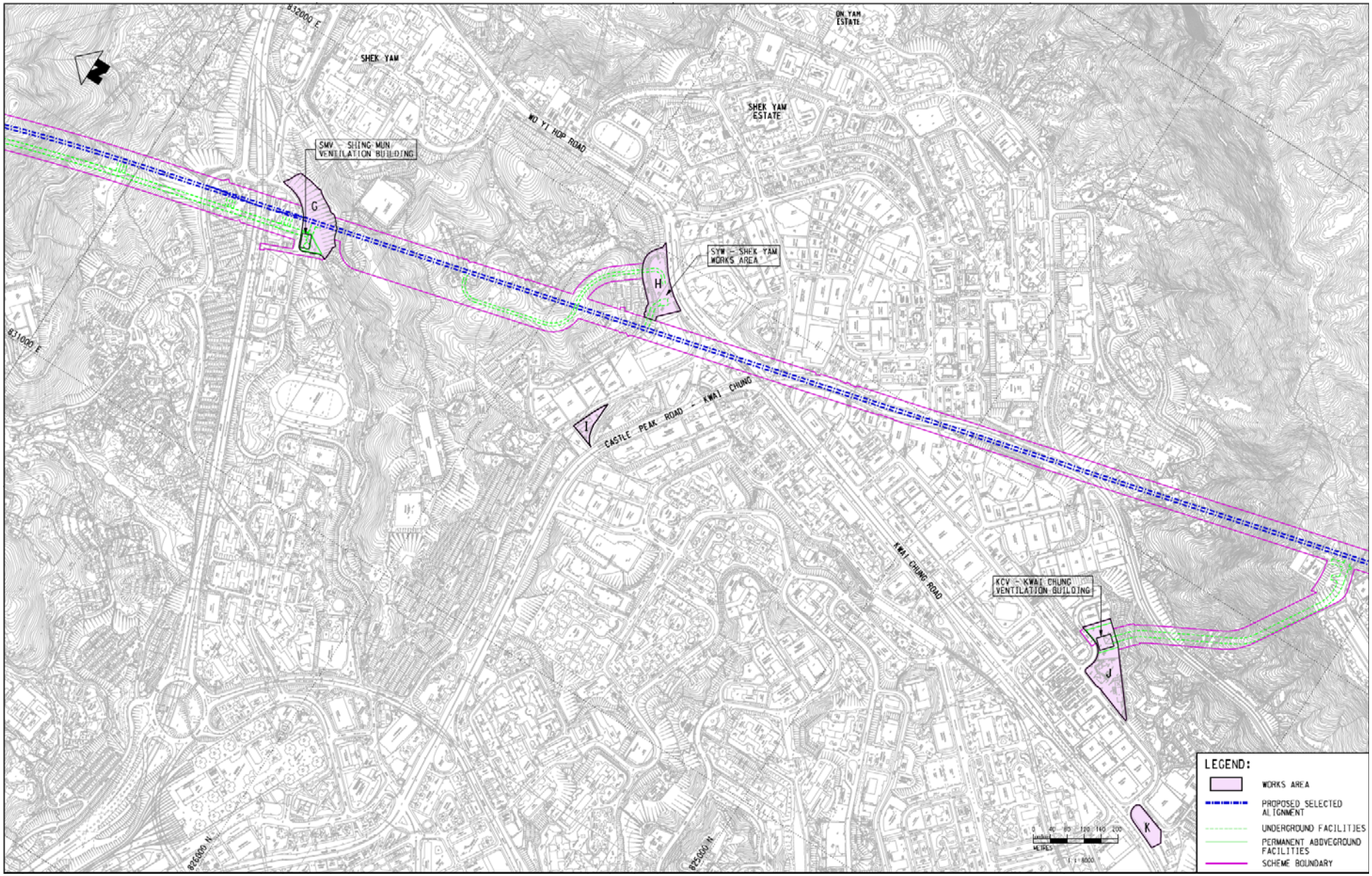
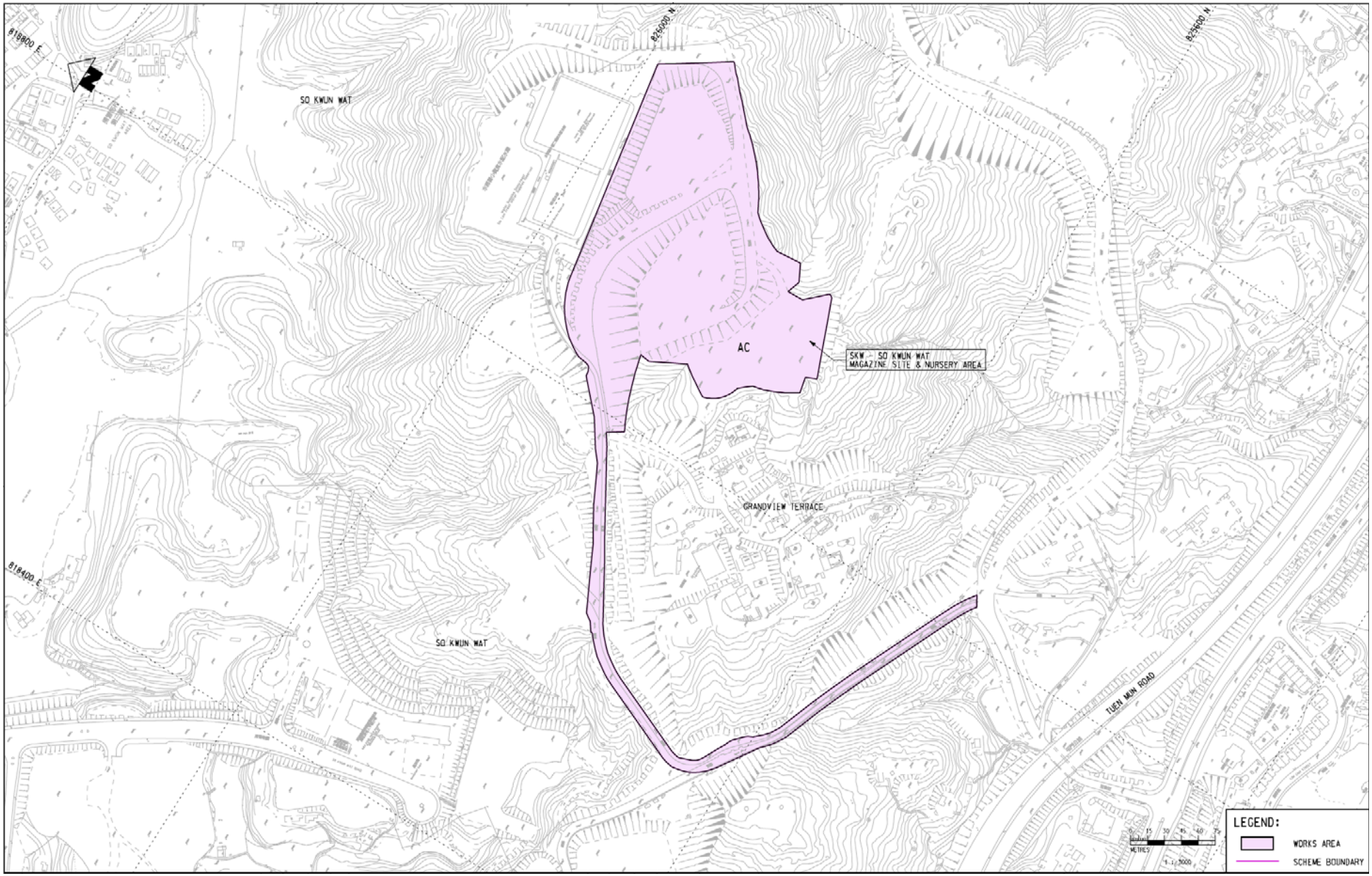
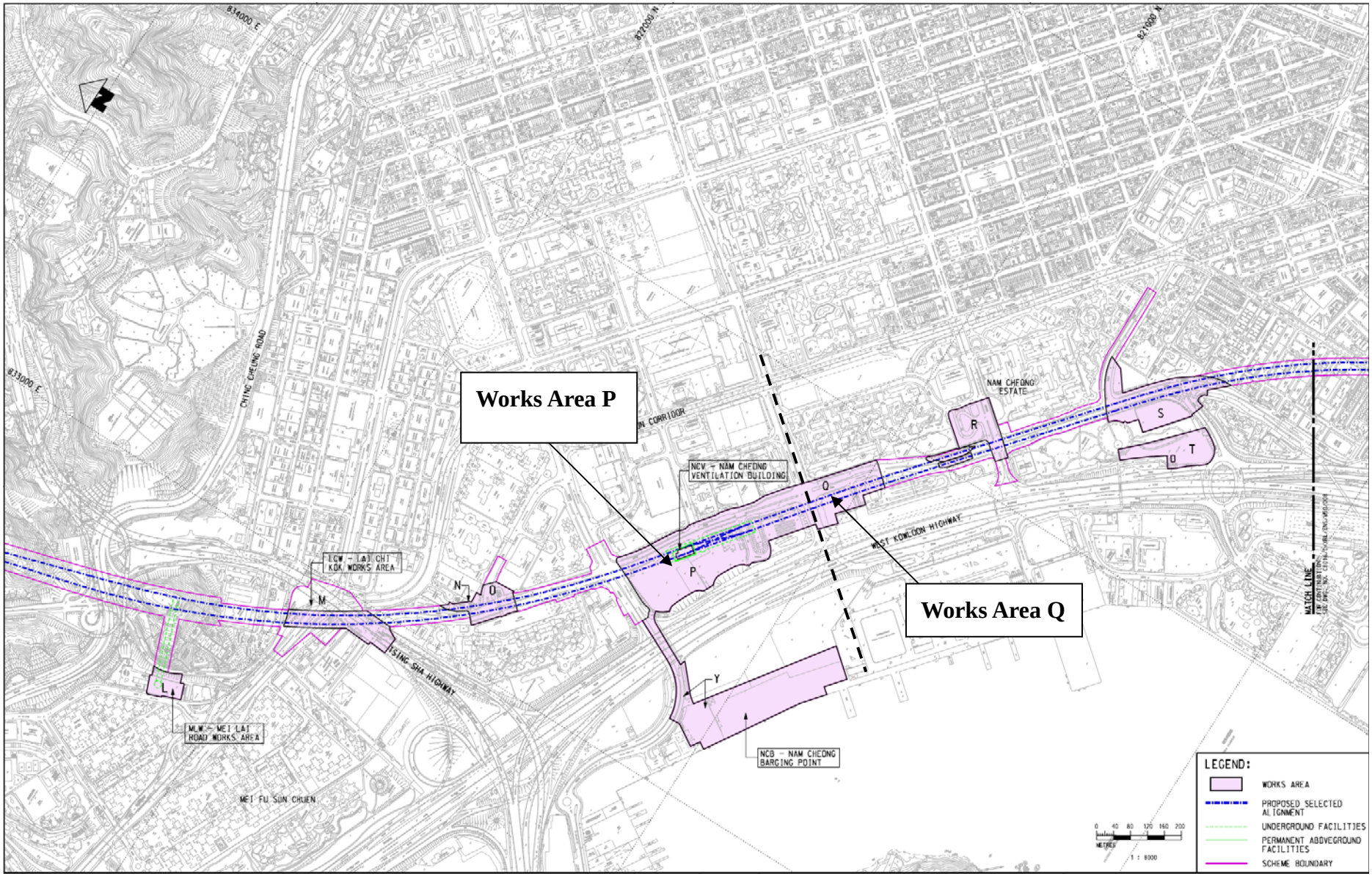


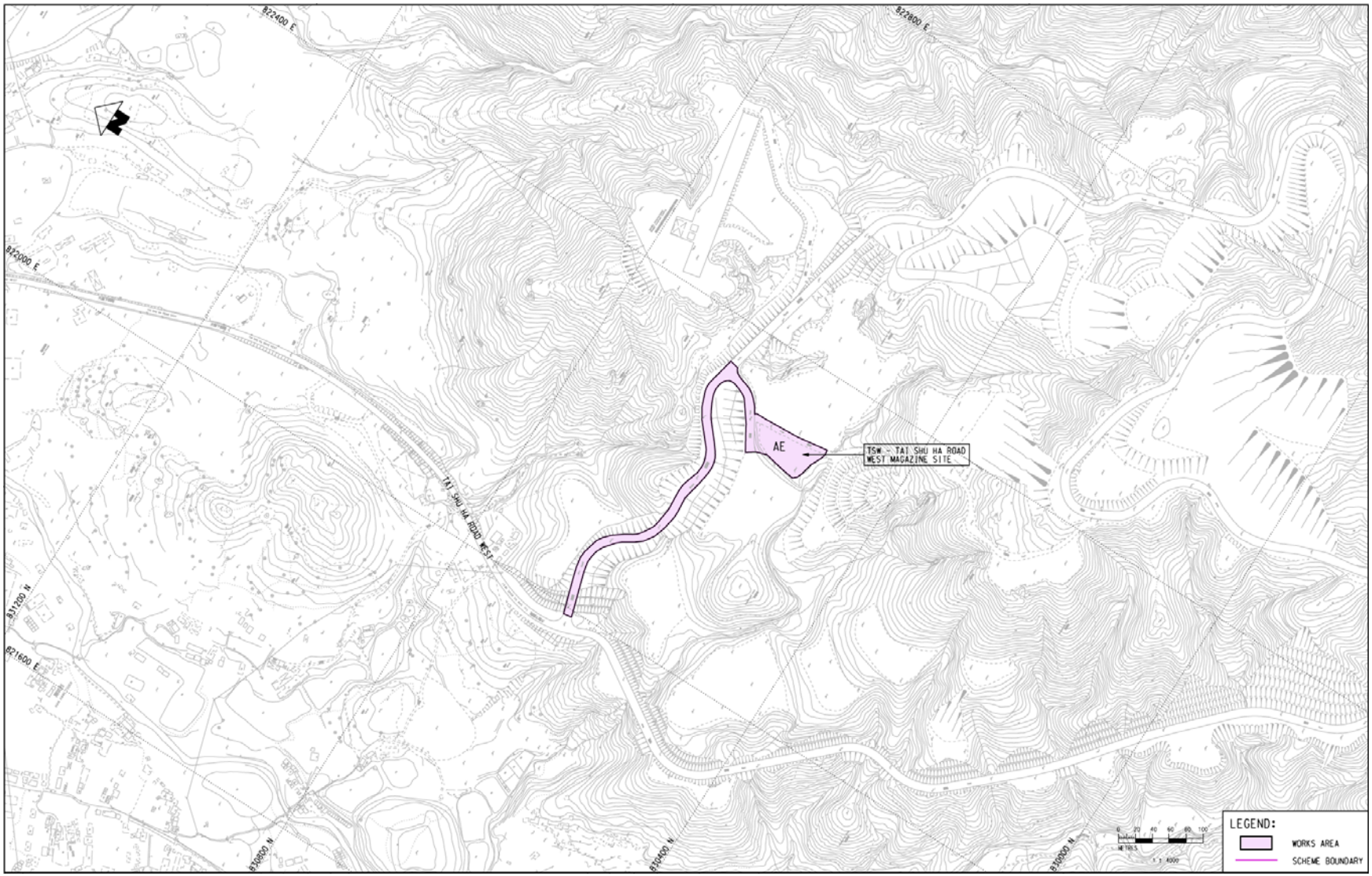

**Figure 1 – Works Area**

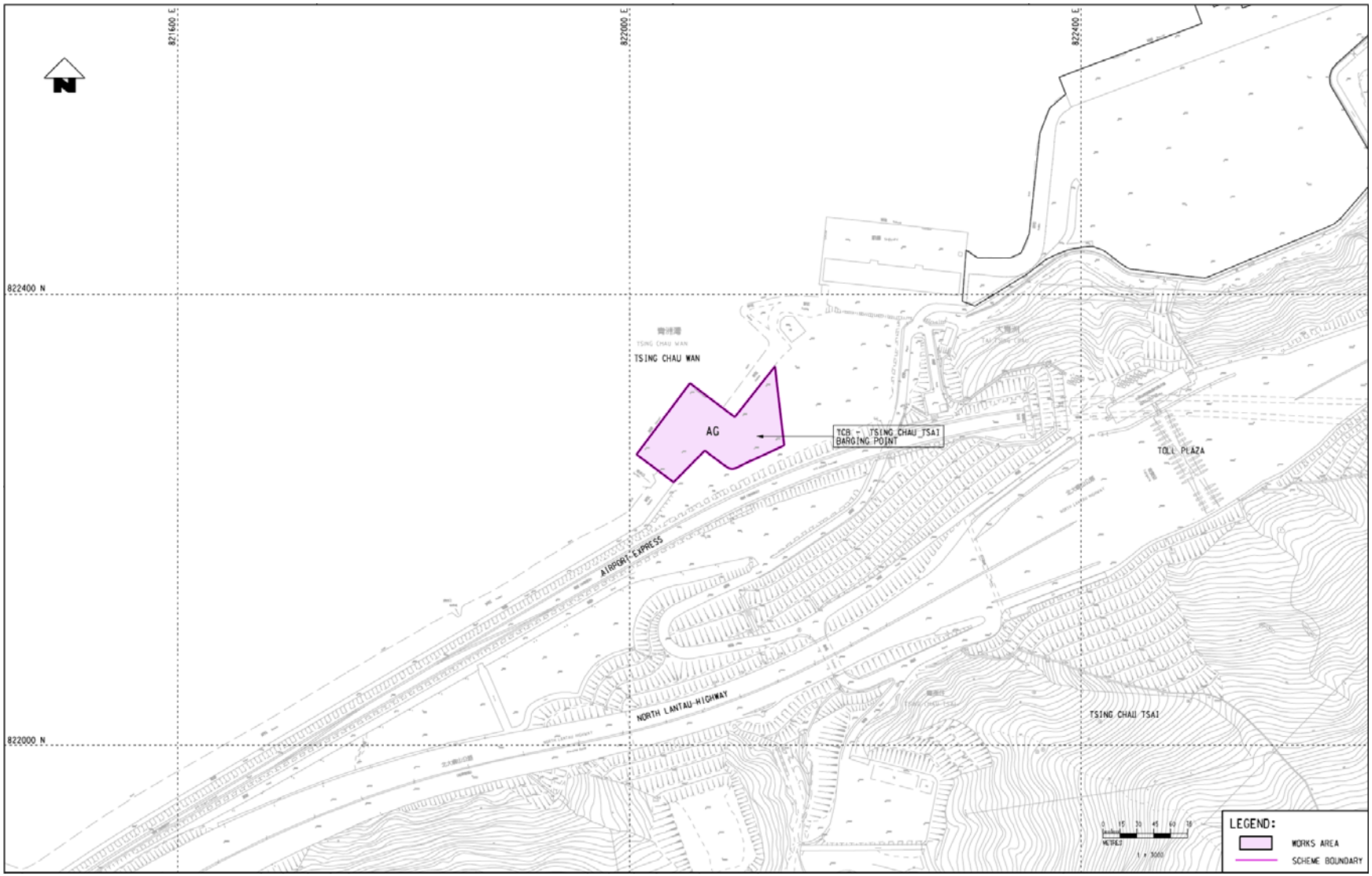

824000 E
825000 E
826000 E
821000 E
838000 N
837000 N
MPV - MAI PO VENTILATION BUILDING
A
NTV - NGAU TAM MEI VENTILATION BUILDING
B
WAI TSAI TSUEN
YAU TAM MEI TSUEN
YAU MEI SAN TSUEN
SHEUNG CHUK YUEN
NULLAH
SAN TIN HIGHWAY
LEGEND:
WORKS AREA
PROPOSED SELECTED ALIGNMENT
UNDERGROUND FACILITIES
PERMANENT ABOVEGROUND FACILITIES
SCHEME BOUNDARY
0 40 80 120 160 200
METRES
1 : 8000

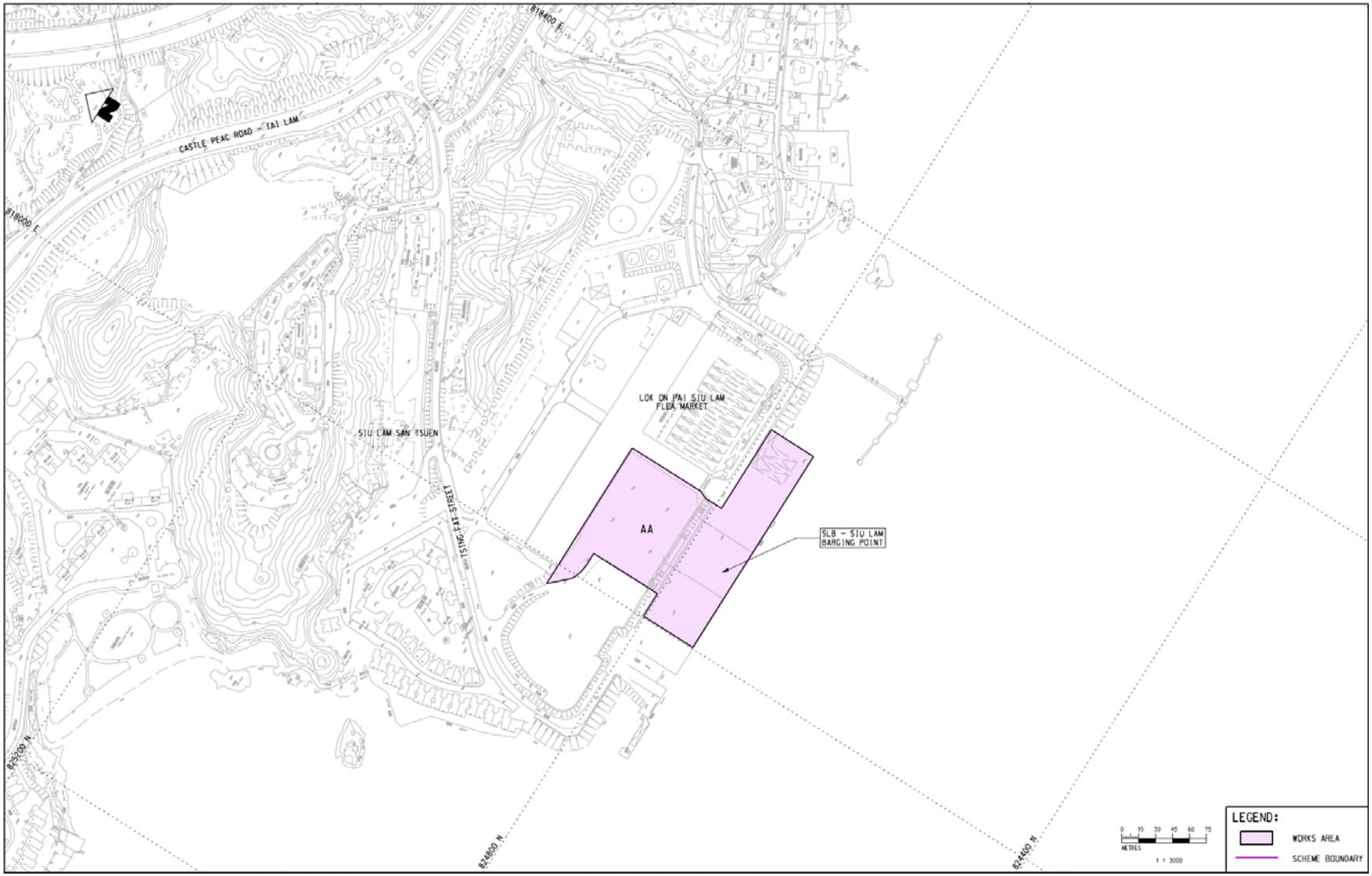

812000 E
831000 E
825600 N
825000 N
SHEK YAM
ON YAM ESTATE
SHEK YAM ESTATE
WO YI HOP ROAD
SMV - SHING MUN VENTILATION BUILDING
SYW - SHEK YAM WORKS AREA
CASTLE PEAK ROAD - KWAI CHUNG
KWAI CHUNG ROAD
KCV - KWAI CHUNG VENTILATION BUILDING
G
H
I
J
K
LEGEND:
WORKS AREA
PROPOSED SELECTED ALIGNMENT
UNDERGROUND FACILITIES
PERMANENT ABOVEGROUND FACILITIES
SCHEME BOUNDARY
METRES
1 : 8000

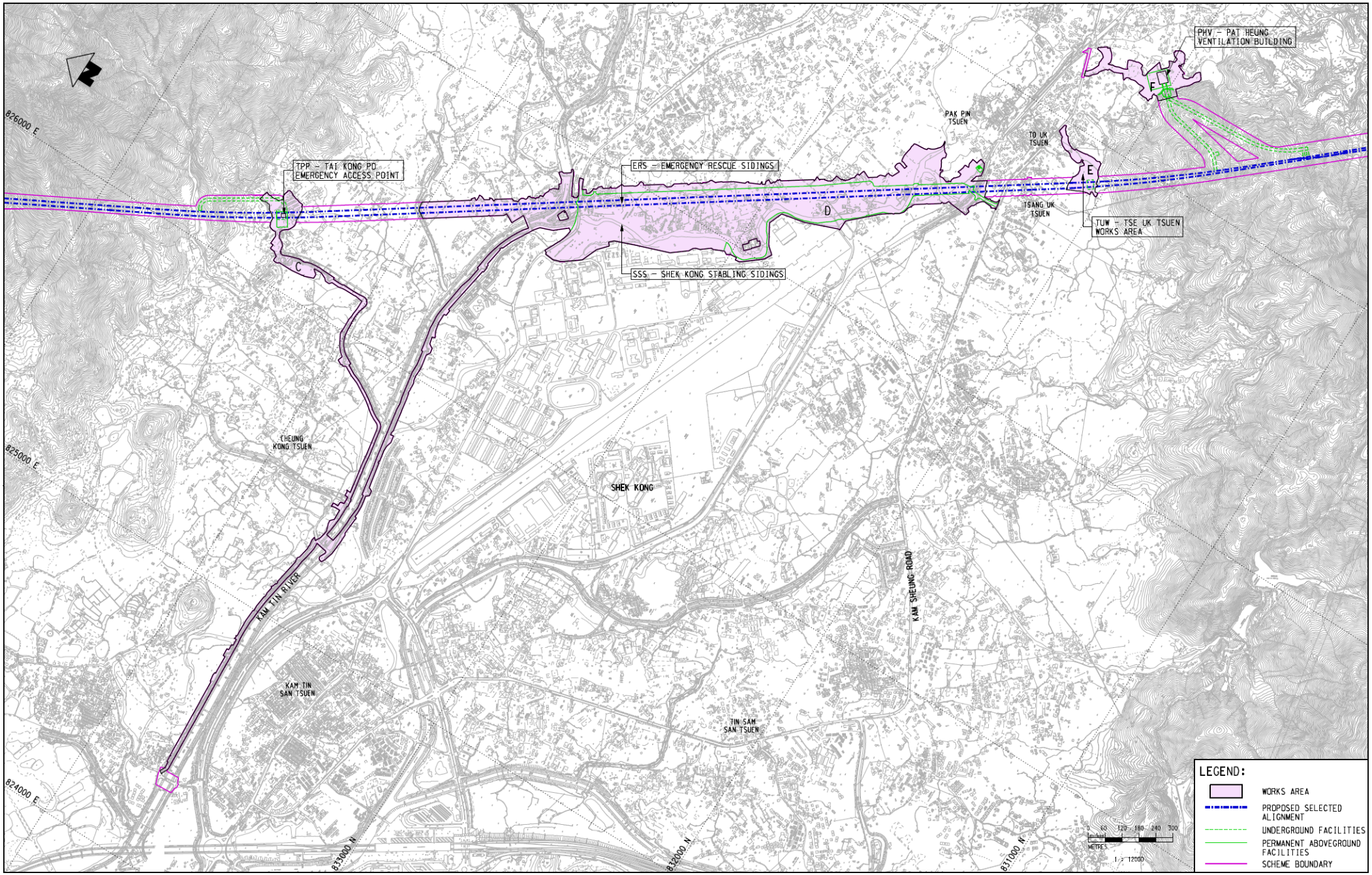

818800 E
818400 E
825600 N
825600 N
SO KWUN WAT
SO KWUN WAT
SO KWUN WAT
AC
SKW – SO KWUN WAT
MAGAZINE SITE & NURSERY AREA
GRANDVIEW TERRACE
TUEN MUN ROAD
METRES
1 : 5000
LEGEND:
WORKS AREA
SCHEME BOUNDARY

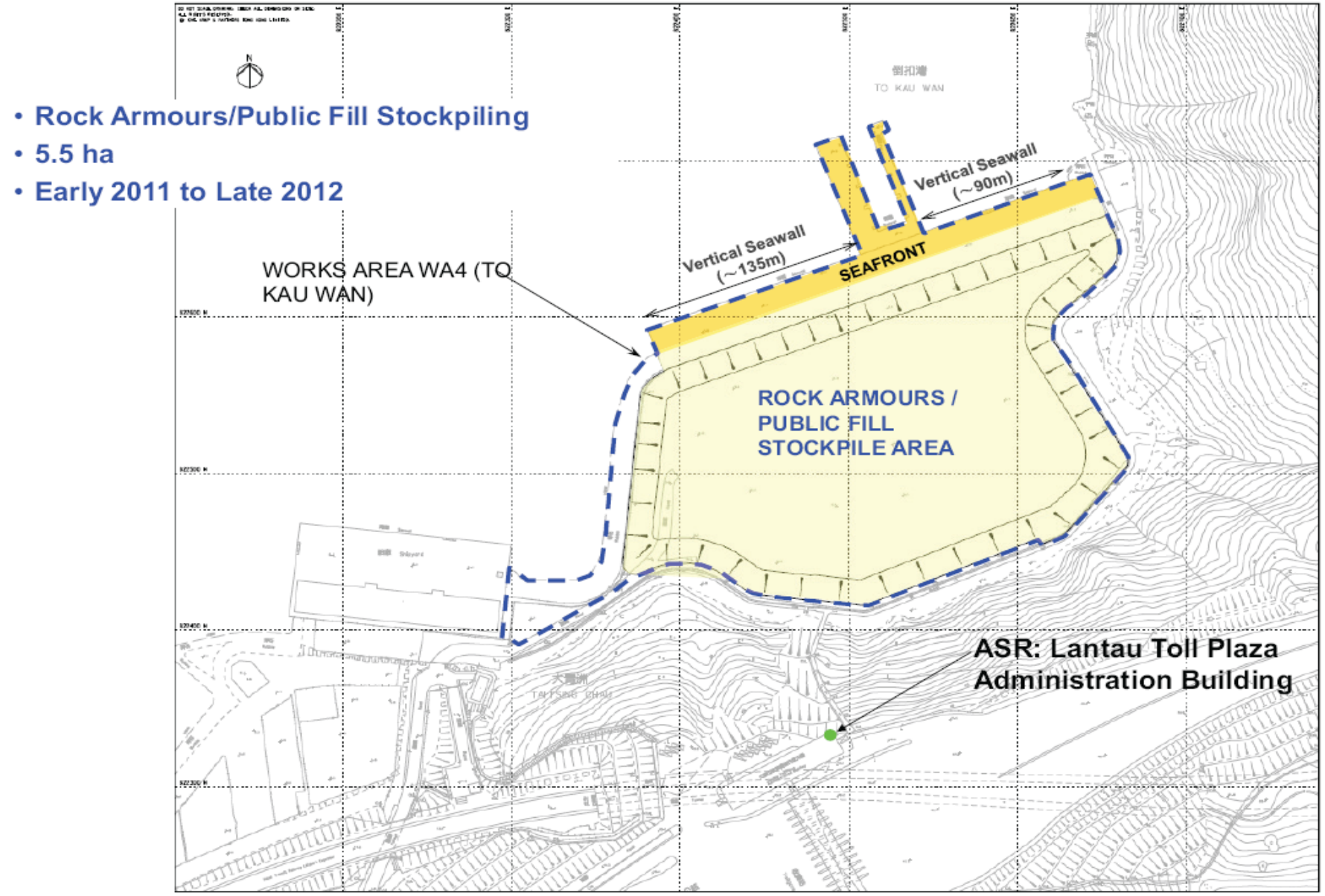

Works Area P
Works Area Q
834000 E
833000 E
822000 N
821000 N
CHING CHEUNG ROAD
NAM CHEONG ESTATE
NCV - NAM CHEONG VENTILATION BUILDING
WEST KOWLOON HIGHWAY
LCW - LAI CHI KOK WORKS AREA
MLW - MEI LAI ROAD WORKS AREA
TSING SHA HIGHWAY
MEI FU SUN CHUEN
NCB - NAM CHEONG BARGING POINT
MATCH LINE
LEGEND:
WORKS AREA
PROPOSED SELECTED ALIGNMENT
UNDERGROUND FACILITIES
PERMANENT ABOVEGROUND FACILITIES
SCHEME BOUNDARY
METRES
1 : 8000


822400 E
822800 E
822000 E
821600 E
831200 N
830800 N
830400 N
830000 N
AE
TSW - TAI SHU HA ROAD WEST MAGAZINE SITE
TAI SHU HA ROAD WEST
LEGEND:
WORKS AREA
SCHEME BOUNDARY

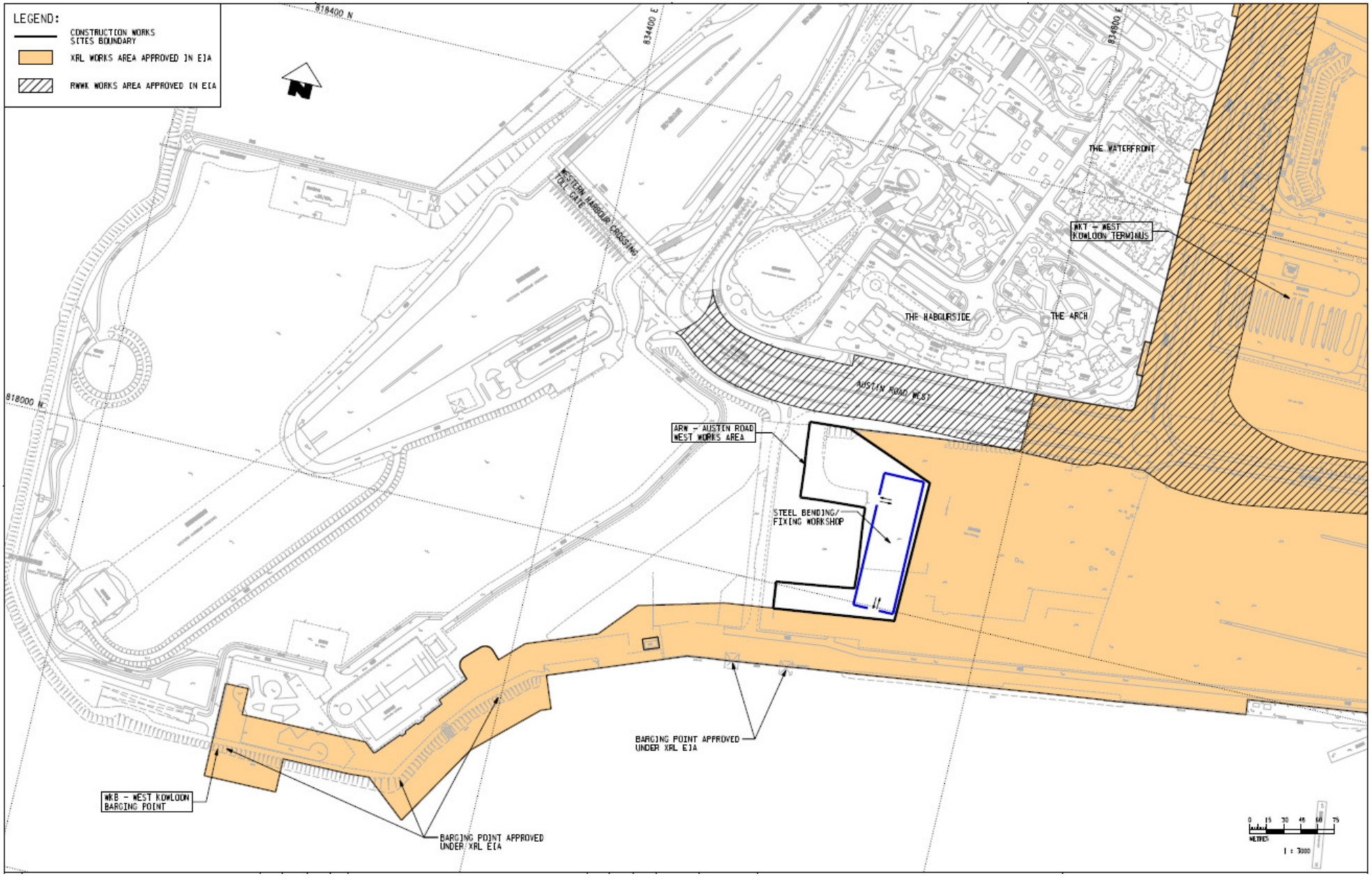

821600 E
822000 E
822400 E
822400 N
822000 N
TSING CHAU WAN
AG
TCB - TSING CHAU TSAI BARGING POINT
TOLL PLAZA
AIRPORT EXPRESS
NORTH LANTAU HIGHWAY
TSING CHAU TSAI
LEGEND:
WORKS AREA
SCHEME BOUNDARY

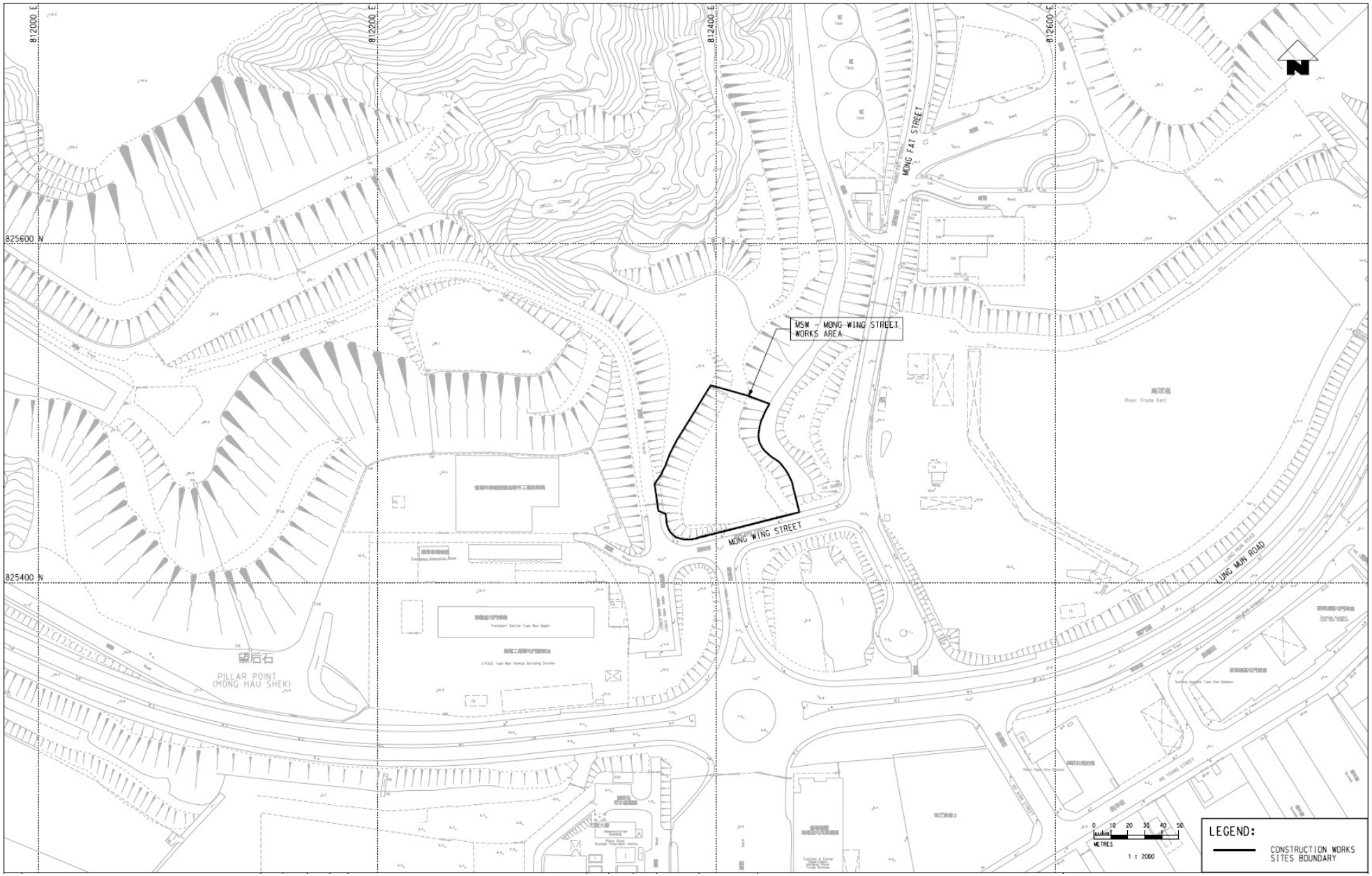

818400 E
CASTLE PEAK ROAD - TAI LAM
818000 E
LOK ON PAI SIU LAM
FLEA MARKET
SIU LAM SAN TSUEN
TSING FAT STREET
AA
SLB - SIU LAM
BARGING POINT
822200 N
824800 N
824400 N
0 15 30 45 60 75
METRES
1 : 3000
LEGEND:
WORKS AREA
SCHEME BOUNDARY

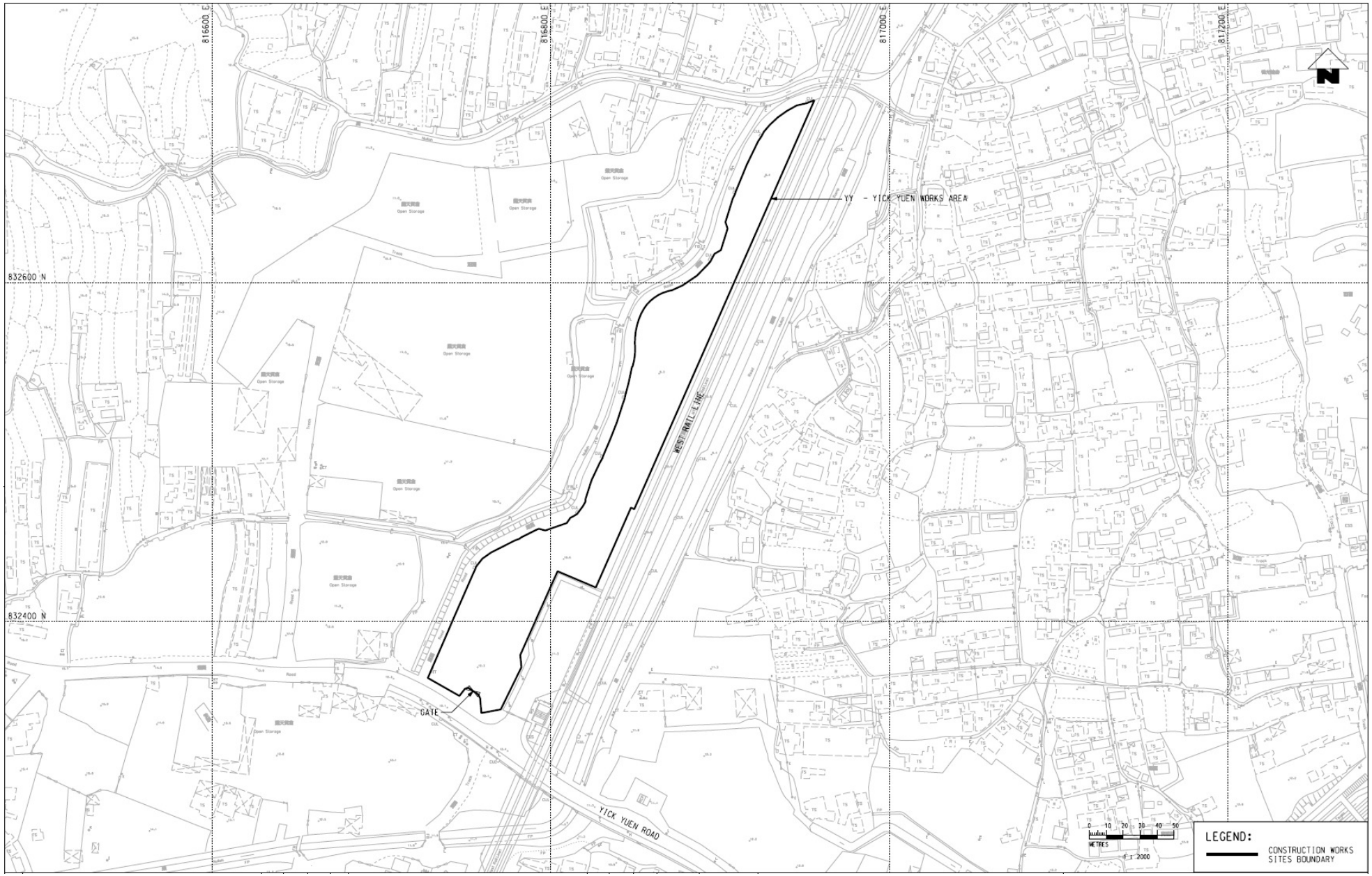

PHV – PAT HEUNG VENTILATION BUILDING
F
PAK PIN TSUEN
TO UK TSUEN
E
TSANG UK TSUEN
TUW – TSE UK TSUEN WORKS AREA
TPP – TAI KONG PO EMERGENCY ACCESS POINT
ERS – EMERGENCY RESCUE SIDINGS
D
SSS – SHEK KONG STABLING SIDINGS
C
826000 E
825000 E
824000 E
CHEUNG KONG TSUEN
SHEK KONG
KAM TIN RIVER
KAM TIN SAN TSUEN
TIN SAM SAN TSUEN
KAM SHEUNG ROAD
833000 N
832000 N
831000 N
0 60 120 180 240 300
METRES
1 : 12000
LEGEND:
WORKS AREA
PROPOSED SELECTED ALIGNMENT
UNDERGROUND FACILITIES
PERMANENT ABOVEGROUND FACILITIES
SCHEME BOUNDARY




| | | | | | |
|---|---|---|---|---|---|
| MTR | Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link<br>Environmental Review Report – Stock Piling Facility in To Kau Wan | SCALE | N.T.S. | DATE | Dec-10 |
| | **Location Plan for To Kau Wan Stockpiling Area** | DRAWING NO. | Figure 2.1 | | |


LEGEND:
CONSTRUCTION WORKS SITES BOUNDARY
XRL WORKS AREA APPROVED IN EIA
RWWK WORKS AREA APPROVED IN EIA
818400 N
834400 E
834800 E
818000 N
WESTERN HARBOUR CROSSING TOLL GATE
THE WATERFRONT
WKT - WEST KOWLOON TERMINUS
THE HABOURSIDE
THE ARCH
AUSTIN ROAD WEST
ARW - AUSTIN ROAD WEST WORKS AREA
STEEL BENDING/ FIXING WORKSHOP
BARGING POINT APPROVED UNDER XRL EIA
WKB - WEST KOWLOON BARGING POINT
BARGING POINT APPROVED UNDER XRL EIA
METRES
1 : 3000


812000 E
812200 E
812400 E
812600 E
825600 N
825400 N
MSW - MONG WING STREET WORKS AREA
MONG FAT STREET
MONG WING STREET
LUNG MUN ROAD
PILLAR POINT
(MONG HAU SHEK)
望后石
River Trade Golf
0 10 20 30 40 50
METRES
1 : 2000
LEGEND:
CONSTRUCTION WORKS SITES BOUNDARY


816600 E
816800 E
817000 E
817200 E
832600 N
832400 N
YY - YICK YUEN WORKS AREA
WEST RAIL LINE
GATE
YICK YUEN ROAD
0 10 20 30 40 50
METRES
1 : 2000
LEGEND:
CONSTRUCTION WORKS SITES BOUNDARY

# Appendix B

# Project Management Organization and Contacts of Key Personnel

| Title | Name | Telephone |
|---|---|---|
| **Engineer's Representative** | | |
| Construction Manager (810A) | Mr. Stephen Boreman | 2926 9170 |
| Construction Manager (810B) | Mr. Ashley Calvert | 2926 9098 |
| Construction Manager (810A, 811A & 811B) | Mr. Albert Lam | 2164 2988 |
| Construction Manager (802, 805, 820, 821 & 822) | Mr. Kristian Murfitt | 3519 4195 |
| Construction Manager (823A, 823B & 824) | Mr. Charles Lau | 3441 2111 |
| Construction Manager (Acting) (825 & 826) | Mr. Eric Chan | 2262 4788 |
| **Independent Environmental Checker** | | |
| Divisional Director | Mr. Eric Ching | 2828 5825 |
| **Environmental Team** | | |
| Environmental Team Leader | Mr. Richard Kwan | 2688 1179 |
| **Contractor** | | |
| *Contract 802 Contractor* | | |
| Project Manager | Mr. Frankie Lam | 6021 2602 |
| Environmental Officer | Ms. Andy Leung | 9489 0035 |
| *Contract 805 Contractor* | | |
| Project Manager | Mr. Richard Chan | 6348 8550 |
| Environmental Engineer / Officer | Mr. Justin Lai | 6330 6726 |
| *Contract 810A Contractor* | | |
| Principle Project Director | Mr. Adrian Clamp | 6468 7678 |
| Senior Environmental Officer | Mr. Dominic Fung | 9664 2565 |

| Title | Name | Telephone |
|---|---|---|
| *Contract 810B Contractor* | | |
| Project Director | Mr. Jeremy Matterson | 6629 4430 |
| Environmental Officer | Ms. Diana Lee | 9317 1219 |
| *Contract 811A Contractor* | | |
| Project Director | Mr. Mike O'Hanlon | 2561 8072 |
| Quality, Safety and Environmental Manager | Mr. Nick Lau | 2164 2810 |
| Environmental Officer (Deputy) | Miss Margaret Chung | 9725 3895 |
| *Contract 811B Contractor* | | |
| Project Manager | Mr. Brian Gowran | 2269 1517 |
| Project Construction Manager | Mr. Roger Wong | 2269 1520 |
| Environmental Officer | Ms. Sammie Chan | 2269 1507 |
| *Contract 820 & 821 Contractor* | | |
| Project Director | Mr. Alain Hervio | 2215 6600 / 6112 9197 |
| Senior QSE Manager | Mr. Y. T. So | 2215 6631 / 9307 8728 |
| Environmental Officer (820 & 821) | Ms. Gemini Lam | 9430 9104 |
| *Contract 822 Contractor* | | |
| Project Manager | Mr. David Hutchinson | 9738 8779 |
| Environmental Officer | Ms. Lighting Chan | 3552 2386 |
| *Contract 823A & B Contractor* | | |
| Project Director | Mr. Austen Hankinson | 2411 7600 |
| Environmental Officer | Mr. Calvin Chan | 2411 7608 |

| Title | Name | Telephone |
|---|---|---|
| *Contract 824 Contractor* | | |
| Works Manager | Mr. Russell Lang | 9200 4157 |
| Environmental Officer | Mr. Alex Gbaguidi | 5313 7021 |
| *Contract 825 Contractor* | | |
| Project Manager | Mr. Nakayama | 2482 8101 |
| Environmental Officer | Mr. Chan Sze Ming | 9384 5494 |
| *Contract 826 Contractor* | | |
| Project Manager | Mr. Steven Meredith | 2774 9886 |
| Environmental Officer | Mr. Pan Fong | 2774 9886 |

# Appendix C

# Implementation Status

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
|---|---|---|---|---|---|---|
| **Ecological Impact (Detailed design Phase / Pre-construction Phase)** | | | | | | |
| S3.398 | - Prior to commencement of channel works, an ecological habitat management plan should be prepared to provide the detailed specifications for the habitats and ecological functions to be provided, and control of colonization of invasive plant species at the mitigation stream habitats and define the long-term management and ecological monitoring and audit requirements for these habitats. | To mitigate the avoidable loss of watercourse habitat | MTR | SSS | Detailed design phase / Prior to commencement of channel works | Ecological Habitat Management Plan (EHMP) formulated and submitted to EPD |
| S3.388 - S3.397 | - The constructed channel in the SSS site should include open channel with ecologically friendly stream feature to mitigate the direct impact due to the loss of a watercourse habitat in Shek Kong. | To mitigate the avoidable loss of watercourse habitat | MTR / DDC | SSS | Detailed design phase | AFCD's comment has been sought during formulation of the EHMP |
| S3.410 | - The implementation details of the impact monitoring programme should be described in ecological monitoring plan for EPD approval before commencement of construction activities. | To outline details of ecological impact monitoring | MTR | MPV, TPP, SSS / ERS, PHV and TUW | Before commencement of construction activities | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
|---|---|---|---|---|---|---|
| S3.327 & S3.412 | - A monitoring and emergency response plan (to be prepared by the Contractor), in relation to potential impacts due to groundwater drawdown, will form part of the EM&A requirement in the EM&A Manual subject to approval by EPD and AFCD before commencement of the tunnelling and MPV construction in Mai Po area. The plan should include, but not be limited to, details of monitoring locations and programme, a mechanism to monitor the implication from the works to the groundwater system and fish pond, action levels and emergency responses such as immediate action, remedial action and investigation. | To detect potential impacts due to groundwater drawdown | Contractor | MPV | Before commencement of the tunnelling and MPV construction | AFCD's comment has been sought during formulation of Plan |
| S3.413 | - A monitoring and emergency response plan, in relation to impacts due to noise/vibration, should form part of the EM&A requirement in the EM&A Manual subject to approval by EPD and AFCD before commencement of the tunnelling and MPV construction in Mai Po area. | To detect and monitor noise / vibration impacts | Contractor | MPV | Before commencement of bore tunnelling and MPV construction | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
|---|---|---|---|---|---|---|
| **Ecological Impact (Construction Phase)** | | | | | | |
| S3.325 - S3.326 | - Implementation of precautionary measures during tunnelling works. | To avoid potential hydrogeological impacts | Contractor | All works areas | Construction phase | Implemented |
| S3.409 to S3.410 | - Ecological impact monitoring focusing on habitats and species of conservation interest should be conducted during the construction phase at the MPV, TPP, SSS / ERS, PHV, and TUW sites where a number of avifauna of conservation interest (e.g. overwintering bird, Greater Painted-snipe) and areas of conservation interest (e.g. country parks, conservation areas, and wetlands) were recorded.<br>- Avifaunal communities should be surveyed quantitatively along transects. Birds heard or seen along the transects should be identified to species and counted. The nature of construction works within works area conducting during each impact monitoring visit should also be recorded. The quantitative monitoring results should be compared to pre-construction condition. The impact monitoring results should be undertaken by qualified ecologist(s) with relevant working experience. | To monitor potential indirect construction impacts to wildlife | MTR<br>MTR | MPV, TPP, SSS / ERS, PHV, and TUW | Construction phase | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
|---|---|---|---|---|---|---|
| | - Should any unpredicted indirect ecological impacts arising from the proposed Project be detected, remedial measures should be developed and implemented by the Contractor. | | Contractor | | | |
| S3.327 & S3.412 | - Implementation of the groundwater monitoring and emergency response plan. | To detect and minimize hydrological impacts | Contractor | MPV | Construction phase (During bore tunneling works and construction of Mai Po Ventilation Shaft) | Refer to Item for S3.327 & S3.412. |
| S3.413 | - Implementation of monitoring and emergency response plan on noise and vibration. | To detect and minimize noise / vibration impacts | Contractor | MPV | Construction phase (During bore tunneling works and construction of Mai Po Ventilation Shaft) | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
|---|---|---|---|---|---|---|
| S3.364 -S3.369 | - Use of quiet construction plant and temporary noise barriers.<br>- Access to the ventilation building sites should follow existing access roads, such as the maintenance access along the existing drainage channels.<br>- Site hoarding of about 2.4 m high should be erected around the works area of access roads along drainage channels in the TPP and SSS / ERS sites.<br>- Gate and fences should be installed along the construction accesses that are adjacent to public areas.<br>- Gates and hoardings should be provided at the entrances/exits and along the boundary of the works areas respectively to prevent any trespassers from encroaching or will fully disturbing any wild animals and their habitats within the works areas.<br>- A trip-ticket system should be adopted to monitor the disposal of construction and demolition materials. CCTV and warning signs should be provided at the entrance of the proposed temporary and permanent | To minimise impacts to surrounding habitats | MTR / Contractor | All works areas | Construction phase | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
|---|---|---|---|---|---|---|
| | vehicular access. | | | | | |
| 3.370 -3.371 and 3.373 | - Vegetation located within the works areas should be preserved as far as practicable.<br>- To avoid soil compaction, heavy machinery should not be used in close proximity to vegetation. Soils that become compacted through the activities of the development should be loosened to an appropriate depth to allow seed germination.<br>- All temporarily affected habitats should be reinstated after the completion of works.<br>- Placement of equipment or stockpiles should be confined to designated works areas. Access routes should be confined on existing disturbed land, where practicable. | To minimize impacts to vegetation | MTR / Contractor | All works areas | Construction phase | Implemented |
| | - Detailed vegetation survey should be conducted in TSW site prior to commencement of site clearance. | To minimize impacts to vegetation | MTR / Contractor | TSW | Prior to commencement of site clearance | Vegetation Survey Report formulated and deposited |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
|---|---|---|---|---|---|---|
| | | | | | | to EPD |
| | - To mitigate the loss of the vegetation and habitats, planting of native species should be provided in the areas affected by the Project in TSW site, and other works area, where practicable. | To minimize impacts to vegetation | MTR / Contractor | TSW and all other works areas | Construction phase | Proposal of mitigatory planting at TSW was included in the Vegetation Survey Report. Mitigatory planting to be implemented as per construction programme |
| S3.372 | - The affected individuals of Incense Tree within the NTV works area should be transplanted to nearby suitable habitats prior to the commencement of site clearance at NTV works area as far as practicable.<br>- A detailed vegetation survey covering the affected | To minimize impacts to vegetation | MTR / Contractor | NTV | Construction phase | Vegetation survey was conducted and included in the Vegetation |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
|---|---|---|---|---|---|---|
| | habitat at NTV works area should be conducted by a suitably qualified botanist / ecologist to identify and record the affected individuals in order to provide details for the transplantation scheme prior to the commencement of site clearance. Feasibility and suitability of transplanting the affected individuals would be studied and suitable receptor sites would be identified. The transplantation proposal for the affected individuals should be prepared as necessary and transplantation should be supervised by a suitably qualified ecologist / horticulturist. | | | | | Survey Report. Transplantation of Incense Tree was completed and monitored. |
| S3.374 - S3.377 | - Site hoarding of 2.4 m high should be set up along the boundary of the works areas as far as practicable. | To minimize disturbance to wildlife | Contractor | All works areas | Construction phase | Implemented |
| | - The erection of hoarding (2.4 m) along KT5 in the area with high Greater Painted-snipe occurrence (e.g. the proposed access road next to KT5) should avoid their breeding season, prior to construction activities in the area. | | | KT5 (near TPP) | Prior to the construction of access road | Implemented |
| | - The use of noisy construction equipment such as hydraulic breakers should be avoided at the area with | | | KT5 (near TPP) | Construction phase | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
|---|---|---|---|---|---|---|
| | high painted-snipe occurrence (e.g. the proposed access road next to KT5) during their breeding season as far as practicable. | | | | | |
| | - Hoardings of 2.4 m height should be put in place before commencement of construction activities. Hoarding at the section along the northern boundary of the MPV works area should be installed first. The duration of hoarding erection should be kept as brief as practicable.<br>- Upon the erection of site hoarding, all construction activities should be conducted within the fenced area. | | | MPV | Right after possession of site | Implemented |
| | - Major construction site lighting should point inward and downward. Unnecessary lighting should be turned off outside working hours of the construction sites. | | | All works area | Construction phase | Implemented |
| S3.378 - S3.380 | - Excavation works carried out within waterbodies should be carried out in dry season where practicable.<br>- Excavation works within the watercourse / drainage channel should be restricted when possible to an | To minimise pollution to waterbodies | Contractor | All works areas | Construction phase | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
|---|---|---|---|---|---|---|
| | enclosed dry section of the watercourse / drainage channel, with containment measures such as bunds and barriers used within the watercourse / drainage channel.<br>- Site runoff should be directed towards regularly cleaned and maintained silt traps and oil / grease separators. The silt and oil / grease separators should be appropriately designed for the local drainage and ground conditions. Tightly sealed closed grab excavators should be deployed where material to be handled is wet.<br>- The flow of the watercourse and drainage channel located with the Project Area should be maintained throughout the construction phase. | | | | | |
| **Terrestrial Ecological Impact (Post-construction / Operation Phase)** | | | | | | |
| S3.327 & S3.412 | - Implementation of the groundwater monitoring and emergency response plan. | To detect and minimize hydrogeological impacts | Contractor | MPV | Post-construction phase | To be implemented as per construction programme |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
|---|---|---|---|---|---|---|
| S3.381 | - The affected agricultural land should be restored to a condition suitable for agricultural use before handing over to landowners / operators. | To minimize impacts to surrounding habitats | MTR / Contractor | All temporarily occupied agricultural land | Operation phase | To be implemented as per construction programme |
| S3.382 – S3.384 | - Vegetation control in the constructed channels should be implemented to prevent the excessive growth of vegetation that would impede the drainage capacity of the channel. To minimise sedimentation, de-silting should be limited to the dry season (November to March). The natural stream bed substrate should not be removed from the channel during de-silting works.<br>- For maintenance de-silting, temporary barrier walls should be used to provide a dewatered zone for de-silting works. Waste material produced during de-silting should be disposed of in a timely and appropriate manner. | To minimise impacts to constructed channels | MTR | All constructed channels in SSS | Operation phase | To be implemented as per construction programme |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
|---|---|---|---|---|---|---|
| S3.385 & S3.387 | - Large areas of reflective material (including glass) should not be used on the outer surfaces of the buildings.<br>- All the major lighting sources should point inward and downward to minimise glare disturbance to wildlife. The intensity of light should also be controlled to the lowest possible level. | To minimise impacts to wildlife | MTR / DDC | All ventilation buildings in northern section and SSS | Detailed design and Operation phases | To be implemented as per construction programme |
| S3.411 | - Implementation of ecological habitat management plan.<br>- Ecological monitoring of the mitigation stream habitats according to ecological habitat management plan. | To monitor the wildlife use of the mitigation stream habitat | MTR | Mitigation stream habitat in SSS / ERS | Operation phase | To be implemented as per construction programme |
| **Marine Ecological Impact (Construction Phase)** | | | | | | |
| Appendix3.6 (S1.102) | - The use of high-speed vessels should also be avoided during the construction and operation of the proposed barging point. | To minimise the indirect impact to Chinese White Dolphin habitat | Contractor | LKB | Construction phase | To be implemented as per construction programme |
| Appendix3.6 | - No dumping of rubbish, oil or chemicals would be allowed. | To minimise the pollution to marine habitats | Contractor | LKB | Construction phase | To be implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| (S1.103) | | | | | | as per construction programme |
| Appendix3.6 (S1.104) | - Deployment of silt curtains around the closed grab dredgers to minimize the suspended sediment impact due to dredging activities in dredging region.<br>- To minimize impact on the gorgonians along the coastline near the dredging area, double silt curtains should be deployed around the works area. | To minimise the impact to subtidal habitats | Contractor | LKB | Construction phase | To be implemented as per construction programme |
| Appendix3.6 (S1.106) | - The number of work vessels and small crafts should be minimized. Dredging should be carried out continuously without unnecessary break to prevent unpredictable or sudden noise outbursts at random intervals. | To minimise disturbance impact on Chinese White Dolphin | Contractor | LKB | Construction phase | To be implemented as per construction programme |
| Appendix3.7 (S1.83) | - Mitigation measures to control water quality impacts proposed under Section 11 should be adopted. | To minimise indirect impact to intertidal and subtidal flora and fauna | Contractor | WKT | Construction phase | Implemented |
| Appendix3.6 (S1.105) | - Engines of vessels moored at the barging point would be turned off to minimize unnecessary underwater | To minimise disturbance impact on Chinese White Dolphin | Contractor | LKB | Construction phase | To be implemented as per |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | noise. | | | | | construction programme |
| **Pond Fisheries Impact (Pre-construction Phase)** | | | | | | |
| S4.51 | - A monitoring and emergency response plan, in relation to potential impacts due to groundwater drawdown, will form part of the EM&A requirement in the EM&A Manual subject to approval by EPD and AFCD before commencement of the tunnelling and MPV construction in Mai Po area. The plan should include, but not be limited to, details of monitoring locations and programme, a mechanism to monitor the implication from the works to the groundwater system and fish ponds including their water levels, action levels and emergency responses such as immediate action, remedial action and investigation. | To detect and minimize potential hydrological impacts | Contractor | MPV | Pre-construction phase (Before commencement of the tunnelling and MPV construction) | AFCD's comment has been sought during formulation of Plan |
| S4.52 | - A monitoring and emergency response plan, in relation to impacts due to noise/vibration, should form part of the EM&A requirement in the EM&A Manual subject to approval by EPD and AFCD | To detect and monitor noise / vibration impacts | Contractor | MPV | Pre-construction phase (Before commencement of bore | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | before commencement of the tunnelling and MPV construction in Mai Po area. | | | | tunnelling and MPV construction) | |
| S4.45 | - Consultation should be conducted with fish operators in Mai Po before tunnelling starts. The method of construction, potential impact and mitigation measures should be fully explained to the operators at the meeting. | Engagement of stakeholders | Contractor / MTR | MPV | Pre-construction phase (Before commencement of tunneling works) | Consultation with Mai Po Village VR has been conducted. |
| **Pond Fisheries Impact (Construction Phase)** | | | | | | |
| S4.51 | - Implementation of the groundwater monitoring and emergency response plan. | To detect and minimize hydrogeological impacts | Contractor | MPV | Construction phase (During bore tunneling works and construction of Mai Po Ventilation Shaft) | Implemented |
| S4.52 | - Implementation of the monitoring and emergency response plan on noise and vibration. | To detect and minimize noise / vibration impacts | Contractor | MPV | Construction phase (During bore tunneling works and | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | | | | | construction of Mai Po Ventilation Shaft) | |
| S4.40 | - Good site practices and proper dust and water quality control measures should be implemented. These include site confinement with fencing/hoarding erection at the perimeter of the works area, stockpile covering by impervious sheeting to avoid spread of construction dust, and proper handling, storage and disposal of chemical waste to avoid contamination of the existing water system, etc. | To minimize the indirect off-site impacts on the adjacent fishponds | Contractor | MPV | Construction phase | Implemented |
| S4.44 | Implementation of good site practices during the construction phase:<br>▪ Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program;<br>▪ Silencers or mufflers on construction equipment should be utilized and properly maintained during the construction program; | To minimize disturbance to fishponds by construction noise | Contractor | MPV | Construction phase | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
|---|---|---|---|---|---|---|
| | ▪ Machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum;<br>▪ Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby fishponds;<br>▪ Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities;<br>▪ Use of movable barrier for certain powered mechanical equipment (PME); and<br>▪ Use of noise enclosure or acoustic shed to cover certain stationary PME. | | | | | |
| **Pond Fisheries Impact (Post-construction Phase)** | | | | | | |
| S4.51 | - Implementation of the groundwater monitoring and emergency response plan. | To detect and minimize hydrogeological impacts | Contractor | MPV | Post-Construction phase | To be implemented as per construction programme |
| **Marine Fisheries Impact (Construction Phase)** | | | | | | |
| Appendix4.2 | - Mitigation measures to control water quality impacts | To minimize the indirect impact on fisheries | Contractor | LKB and WKT | Construction phase | To be implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| (S1.38) | proposed under Section 11 should be adopted. | resources | | | | as per construction programme |
| **Airborne Noise Impact (Construction Phase)** | | | | | | |
| S5.120 | The following good site practices should be implemented:<br>▪ Only well-maintained plant should be operated on-site and plants should be serviced regularly during the construction program;<br>▪ Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program;<br>▪ Mobile plant, if any, should be sited as far from noise sensitive receivers (NSRs) as possible;<br>▪ Machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum;<br>▪ Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs; and<br>▪ Material stockpiles and other structures should be effectively utilized, wherever practicable, in | To reduce construction noise impact | MTR / Contractor | All works areas | Construction phase | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | screening noise from on-site construction activities. | | | | | |
| S5.121-S5.122 and Table 5.22 | The following quiet PME should be used:<br>▪ Pneumatic breaker (SWL=110dB(A))<br>▪ Tracked Excavator Fitted with Hydraulic Breaker (SWL=110dB(A))<br>▪ Truck Mixer (SWL=100dB(A))<br>▪ Tracked Crane (SWL=101dB(A))<br>▪ Dump Truck (SWL=103dB(A))<br>▪ Tracked Excavator/Loader (SWL=105dB(A))<br>▪ Dozer (SWL=111dB(A))<br>▪ Road Roller (SWL=101dB(A)) | To reduce construction noise impact | MTR / Contractor | Works Areas A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, Y, Z, AA, AC, AE, AF, AG and AH | Construction phase | Implemented |
| S5.123 - S5.124 | Movable noise barrier should be used for the following PME where practicable:<br>▪ Mini backhoe<br>▪ Breaker, mini-robot mounted<br>▪ Vibratory poker<br>▪ Handheld breaker<br>▪ Excavator<br>▪ Grab | To reduce construction noise impact | MTR / Contractor | Works Areas A, C and D | Construction phase | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
|---|---|---|---|---|---|---|
| | ▪ Tracked Crane | | | | | |
| S5.125 | Noise enclosure/acoustic shed should be used for the following PME where practicable:<br>▪ Air compressor<br>▪ Concrete pump<br>▪ Grout pump<br>▪ Shotcrete pump | To reduce construction noise impact | MTR / Contractor | Works Areas A, B, C, D, E, F, G, H, I, J, K, L, M, O, P, Q, S, T, U, V and Z | Construction phase | Implemented |
| S5.125 | Acoustic enclosure should be used for enclosing drilling jumbo as fully as possible. | To reduce construction noise impact | MTR / Contractor | Works Areas B, C, F, H and J | Construction phase | Implemented |
| S5.127 | Silencer should be used for the ventilation fans. | To reduce construction noise impact | MTR / Contractor | Works Areas A, B, C, D, E, F, H, J, L and P | Construction phase | Implemented |
| S5.128 | Noise insulating fabric should be applied where practicable to cover the following PME:<br>▪ Drill rig<br>▪ Grab and chisel<br>▪ Oscillator & casings<br>▪ Piling rig | To reduce construction noise impact | MTR / Contractor | Works Areas A, B, C, D, E, G, L, M, N, O, Q, R, S, V | Construction phase | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | ▪ Piling, large diameter bored, reverse circulation drill<br>▪ Piling, vibrating hammer | | | | | |
| S5.130 | Use of "Noise Insulating Cover" to cover the mucking out points. | To reduce construction noise impact | MTR / Contractor | Works Area L | Construction phase | To be implemented as per construction programme |
| S5.131 | Use of temporary hoardings along the works boundary. | To reduce construction noise impact | MTR / Contractor | Works Areas B and D | Construction phase | Implemented |
| S5.134-S5.136 | Use of saw instead of mini-robot mounted breaker and oscillator pile for removal of superstructures | To reduce construction noise impact | MTR / Contractor | Works Areas N, O and S | Construction phase | Implemented |
| S5.137 | Scheduling of construction works outside school examination periods | To reduce construction noise impact | MTR / Contractor | Works Areas G, J, K, L, N, O, P, Q, Y, U, V and AH | Construction phase | Implemented |
| S5.193 | Airborne construction noise monitoring should be conducted in accordance with EM&A Manual to monitor the airborne noise impact. | To monitor airborne noise impact | MTR / Contractor | Proposed monitoring locations | Construction phase | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| **Airborne Noise Impact (Operation Phase)** | | | | | | |
| S5.113 and Table 5.21 | The maximum permissible sound power levels (Max SWLs) for the fixed plant should be complied with during the selection of equipment and mitigation measures. | To comply with the noise criteria of Noise Control Ordinance | MTR / DDC | MPV, NTV, PHV, SMV, KCV, NCV, MKV, WKV and WKT | Detailed design and operation phases | To be implemented as per construction programme |
| S5.140 | Noise barrier should be erected as follow:<br>▪ A 8m high barrier along the access road on eastern side of SSS; and<br>▪ 5.5m barrier along western boundary facing Leung Uk Tsuen squats. | To comply with the noise criteria of Noise Control Ordinance | MTR / DDC | SSS | Detailed design and operation phases | To be implemented as per construction programme |
| S5.140 | Installation of 13m absorptive panels on both sides and full length of ERS. | To comply with the noise criteria of Noise Control Ordinance | MTR / DDC | ERS | Detailed design and operation phases | To be implemented as per construction programme |
| S5.196 | Noise commissioning test is recommended to monitor the ground-borne noise level complying with NCO. | To monitor ground-borne noise impact | MTR / Contractor | Proposed monitoring locations | Operation phase | To be implemented as per |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | | | | | | construction programme |
| **Ground-borne Noise Impact (Construction Phase)** | | | | | | |
| S6.82 | Ground-borne construction noise monitoring should be conducted in accordance with EM&A Manual to monitor the ground-borne noise impact. | To monitor ground-borne noise impact | MTR / Contractor | Proposed monitoring locations | Construction phase | To be implemented as per construction programme |
| S6.85 | Construction groundborne noise measurement results should be used to further update the ground-borne noise prediction where appropriate. | To update the predicted ground-borne noise levels. | MTR / Contractor | TBM tunneling section | Construction phase | To be implemented as per construction programme |
| S6.83 | Conduct tests of the FDL of the train to update the ground-borne noise prediction and the recommended mitigation measures as necessary. | To confirm the predicted ground-borne noise levels | MTR | - | Prior to the final design of the trackform and the extent of each type of trackform, and after the proposed train in operation | To be implemented as per construction programme |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | | | | | outside Hong Kong | |
| S6.84 | Conduct vibration borehole testing at two carefully selected locations along the proposed tunnel alignment to determine the LSR values under certain geological conditions. The ground-borne noise predictions and the recommendation on mitigation measures should be updated as necessary. | To confirm the predicted ground-borne noise levels | MTR | Proposed two locations | Prior to the commencement of construction works | The measurement was completed and the Performance Test Plan has been approved by EPD |
| **Ground-borne Noise Impact (Operation Phase)** | | | | | | |
| S6.87 | Noise commissioning test is recommended to monitor the ground-borne noise level complying with NCO. | To monitor ground-borne noise impact | MTR / Contractor | Proposed monitoring locations | Operation phase | To be implemented as per construction programme |
| **Landscape and Visual Impact (Construction Phase)** | | | | | | |
| Table | All existing trees should be carefully protected during construction as far as possible in accordance with | To minimize landscape and visual impacts during | Contractor | Works areas | Detailed design and construction | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
|---|---|---|---|---|---|---|
| 7.10 | ETWB TCW No. 29/2004 and 3/2006. | construction phase | | | phases | |
| | Trees should be retained on site as far as possible. Should removal of trees be unavoidable due to construction impacts, trees will be transplanted or felled depending on stated criteria in the Tree Removal Applications to be submitted separately in accordance with ETWBC 2/2004 and 3/2006.<br>Wood resulting from tree removal should be recycled as mulch or soil conditioner which could be used within the Project or in other projects as much as possible. | | Contractor | | | |
| | Control of night-time lighting glare. | | Contractor | | | |
| | Erection of decorative screen hoarding to screen off undesirable views of the construction site having consideration of safety and security. | | Contractor | | | |
| | Reuse of existing topsoil where possible for new planting areas within the project. | | Contractor | | | |
| **Landscape and Visual Impact (Operation Phase)** | | | | | | |
| Table 7.11 | Compensatory tree planting should be incorporated into the proposed Project where space is available | To minimize landscape and visual impacts during | MTR | Works areas | Detailed design and operation | To be implemented as per |
| | Landscape and visual enhancement treatments | | MTR | | | |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
|---|---|---|---|---|---|---|
| | | operation phase | | | phases | construction programme |
| | Compensatory habitat proposal for natural stream course at SSS | | MTR | | | |
| | Reinstatement of works area in Nam Cheong Park to integrate with the existing park. | | MTR | | | |
| | Tall buffer tree planting should be incorporated provide screening to ventilation buildings, engineering structures and associated facilities. | | MTR | | | |
| | Roof greening to mitigate the visual impact of VB on the VSRs at high level. | | MTR | | | |
| | Vertical greening would be incorporated where practicable to visually soften the façade of ventilation building and/or noise barrier | | MTR | | | |
| | Incorporation of aesthetically pleasing streetscape design which would be responsive to adjacent landscape context. | | MTR | | | |
| | Roadside amenity trees to enhance the landscape and visual quality of the existing and proposed road. | | MTR | | | |
| | Reinstatement of disturbed areas to match adjacent area or to condition to suit future landuse. | | MTR | | | |
| | Aesthetically pleasing design as regard to the form, material and finishes shall be incorporated to all | | MTR | | | |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | buildings, engineering structures and associated infrastructure facilities so as to blend in the buildings and structures to the adjacent landscape and visual context. | | | | | |
| | Control of Operation Night-time Glare | | MTR | | | |
| | Incorporation of aesthetically pleasing design to boundary fence so as to blend in the structure to the adjacent landscape and visual context. | | MTR | | | |
| | The scale, location, disposition and design of the ventilation shafts at WKCD would be further reviewed and submitted to relevant parties (e.g. WKCDA and PlanD) for agreement. | | MTR | | | |
| **Cultural Heritage Impact** | | | | | | |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| S8.100 – S8.103 | • Conduct further investigation (a minimum of 18 trial pits, 1m x 1.5m) to confirm any archaeological remains exist in the inaccessible areas (**NOL/ERL/300/C/XRL/ENS/M55/303- 304 & 306-307**). If archaeological data collected from these 18 test pits is insufficient to ascertain the archaeological potential of the inaccessible areas, additional test pits should be conducted<br>• Conduct rescue excavation to preserve archaeological remains by detailed records if found (**NOL/ERL/300/C/XRL/ENS/M55/307**) | To confirm any archaeological remains exist in the inaccessible areas and to preserve archaeological remains if any | MTR | Proposed rescue excavation area in SSS and other archaeological deposit areas identified in the further archaeological investigation | Prior to construction phase | Further Archaeological Investigation has been conducting according to Archaeological Action Plan formulated |
| S8.103 | Conduct archaeological watching brief during construction works at TUW for identification of any historical finds during construction phase | To identify any historical finds in the works area | MTR | TUW | Construction phase | Implemented |
| S8.104 | Conduct regular site audit during the construction of barging point to confirm that no excavation works is conducted at Lung Kwu Sheung Tan archaeological deposit area. | To avoid direct impact | MTR | LKST barging point and associated access road | Construction phase | To be implemented as per construction programme |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| S8.105 | Restriction of works boundary of TPP to be extended to relics discovered area outside TPP. | To avoid direct impact | MTR | TPP | Construction phase | Implemented |
| S8.107, S8.128 | Avoid works areas at the sites of the identified built heritage structures as far as practicable. Identified earth shines within works boundary of SSS and TPP will be relocated by local villagers prior to commencement of construction works at SSS and TPP. | To avoid direct impact | MTR | Earth shines (NHL-04,TKP-02 and LET-07) | Prior to construction phase | Implemented |
| S8.109, S8.125 | Vibration monitoring at Lai Chi Kok Hospital:<br>▪ Prior to commencement of construction works, the location and installation of the monitoring stations should be discussed and agreed with AMO, Hong Kong Institution for Promotion of Chinese Culture (the "NPO", selected organization for the Revitalisation Scheme), the Commissioner for Heritage's Office and relevant parties before installation.<br>▪ Compliance monitoring of vibration limits should be conducted and reported as a requirement of EM&A programme. | To monitor vibration impacts on the identified vibration sensitive historical buildings | MTR | Ex-Lai Chi Kok Hospital | Before construction phase; Construction phase | To be implemented as per construction programme |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| S8.110, S8.126 | ▪ A further condition survey and appropriate consolidation works (e.g. installation of temporary propping or reinforced timber beam to maintain the stability of structure etc.), if required, will be carried out on Blocks P Q, W and the inaccessible area of LCKH prior to construction. It should be discussed and agreed in advance with AMO, NPO, the Commissioner for Heritage's Office and relevant parties, | To minimize vibration impacts on the identified vibration sensitive historical buildings | MTR | Ex-Lai Chi Kok Hospital | Detailed design | To be implemented as per construction programme |
| S8.112, S8.127 | ▪ If consent is given by the property owner, a condition survey will be carried out at Cheung Yuen prior to the commencement of works in SSS. The survey should be discussed and agreed in advance with AMO and property owner prior to commencement of survey. | To minimize vibration impacts on the identified vibration sensitive historical buildings | MTR | Cheung Yuen | Prior to construction phase | AMO's comment has been sought during formulation of Vibration Monitoring Plan |
| S8.112, S8.127 | ▪ If consent is given by the property owner, vibration monitoring at LET-06 (Cheung Yuen) will be conducted when excavation works are being conducted within 50m radius from the house. The monitoring location should be discussed and agreed | To monitor vibration impacts on the identified vibration sensitive historical buildings | MTR | Cheung Yuen | Construction phase | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | with AMO and property owner before installation. | | | | | |
| S8.113, S8.124 | ▪ Control of vibration levels from the proposed blasting and excavation activities within a peak particle velocity (ppv) limit of 25mm/s to prevent potential vibration impact to all identified built heritage resources. | To minimize vibration impacts on the identified vibration sensitive historical buildings | MTR | All works area where blasting and excavation activities are involved | Construction phase | Implemented |
| S8.114 - S8.115 | ▪ Use of sensibly designed screen hoardings for reducing the potential visual impact. | To minimize visual impacts | MTR | All identified heritage buildings in all works areas | Detailed design and construction phase | Implemented |
| **Land Contamination Impact** | | | | | | |
| S9.28 – S9.33 | Remediation of Contaminated Soil<br>▪ After excavation, confirmation sampling and testing shall be conducted from the sidewalls and at base of the excavations to ensure complete excavation of contaminated soils.<br>▪ Bioremediation (biopiling) / ex-situ chemical oxidation are proposed to remediate the contaminated soil recorded in Sites H and Q. | To remediate contaminated soil | Contractor | Sites H and Q | Site remediation | For Site H: Remediation has been conducting according to the approved Supplementary |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | Remediation Report(s) (RR) for contaminated works area(s) should be prepared by the Land Contamination Specialist to detail the remediation process and demonstrate that contaminated soils are all removed, properly handled and disposal of. The remediated soil should be reused on site to minimise the waste disposal. | | | | | RAP.<br><br>For Site Q: To be implemented as per construction programme |
| S9.35(i) | For construction works of the alignment close to Ngau Tam Mei Landfill<br>▪ As a general precautionary measure, visual inspection of excavated materials should be conducted to screen soil for signs of contamination (e.g. discoloration, stains and odour). The inspection process should also be assisted by a photo ionization detector (PID) for volatile organics. If suspected materials are encountered during tunnel boring, sampling and testing for the parameters recommended in Table 6.1 of CAP should be undertaken to verify any contamination. The suspected soil bored out during excavation and tunnel boring should be temporary stockpiled and if laboratory analysis indicated exceedance of relevant RBRG levels, remediation works, should be undertaken depending on the quantity and | Acting as a general precautionary measure to screen soil for signs of contamination during tunnel boring works under/close to Ngau Tam Mei Landfill | MTR/Contractor | Within the Landfill Boundary where signs of contamination is identified | During Tunnel Boring within Ngau Tam Mei Landfill Boundary Section | To be implemented as per construction programme |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | quality of contaminated soil identified. | | | | | |
| S9.35(ii) | For construction works at CLP transformer station at Lai Cheung Road and Petrol Filling Station at 82 Tai Kok Tsui Road<br>▪ As a general precautionary measure, visual inspection of excavated materials should be conducted to screen soil for signs of contamination (e.g. discoloration, stains and odour). The inspection process should also be assisted by a photo ionization detector (PID) for volatile organics. If suspected materials are encountered during tunnel boring, further sampling and testing should also be undertaken to verify any contamination. The soil bored out during excavation and tunnel boring should be temporary stockpiled and if laboratory analysis indicated exceedance of relevant RBRG levels, remediation works, should be undertaken depending on the quantity and quality of contaminated soil identified. | Acting as a general precautionary measure to screen soil for signs of contamination during tunnel boring/ excavation at CLP transformer station at Lai Cheung Road and Petrol Filling Station at 82 Tai Kok Tsui Road | MTR/Contractor | Area close to CLP transformer station at Lai Cheung Road and Petrol Filling Station at 82 Tai Kok Tsui Road where signs of contamination is identified | During Tunnel Boring/ excavation works near CLP transformer station at Lai Cheung Road and Petrol Filling Station at 82 Tai Kok Tsui Road | To be implemented as per construction programme |
| S9.35 (iii) | For sites with contamination identified (Site H and Site Q) the following environmental mitigation measures should be undertaken during the course of the site remediation:<br>▪ Excavation profiles must be properly designed and executed with attention to the relevant requirements for environment, health and safety; | To minimise the potentially adverse environmental impacts arising from the handling of potentially contaminated materials. | Contractor | Sites H and Q /during transportation | Site remediation and prior to construction phase | For Site H: Implemented<br><br>For Site Q: To be |

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| | ▪ Excavation should be carried out during dry season as far as possible to minimise contaminated runoff from contaminated soils;<br>▪ Supply of suitable clean backfill material is needed after excavation;<br>▪ The chemical oxidant proposed (RegenOxTM) as a contaminant mass reduction technology. Comprises a solid oxidant complex (sodium percarbonate/catalytic formulation) and an activator complex (a composition of ferrous salt embedded in a micro-scale catalyst gel). These chemical will be securely stored, separately and way from sources of ignition or oxidizable items. Handling will & will be undertaken by persons specifically trained and wearing appropriate PPE.<br>▪ Vehicles containing any excavated materials should be suitably covered to limit potential dust emissions or contaminated wastewater run-off, and truck bodies and tailgates should be sealed to prevent any discharge during transport or during wet conditions;<br>▪ Speed control for the trucks carrying contaminated materials should be enforced; and<br>▪ Vehicle wheel and body washing facilities at the site's exist points should be established and used. | | | | | implemented as per construction programme |
| S9.35(iv) | In order to minimise the potentially adverse effects on health and safety of construction workers during the | To minimise the potentially adverse effects on health and safety of | Contractor | Sites H and Q | Site remediation and prior to construction | |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | course of site remediation, the Occupation Safety and Health Ordinance (OSHO) (Chapter 509) and its subsidiary Regulations should be followed by all site personnel working on the site at all times. In addition, the following basic health and safety measures should be implemented as far as possible:<br>▪ Set up a list of safety measures for site workers;<br>▪ Provide written information and training on safety for site workers;<br>▪ Keep a log-book and plan showing the contaminated zones and clean zones;<br>▪ Maintain a hygienic working environment;<br>▪ Avoid dust generation;<br>▪ Provide face and respiratory protection gear to site workers;<br>▪ Provide personal protective clothing (e.g. chemical resistant jackboot, liquid tight gloves) to site workers; and<br>▪ Provide first aid training and materials to site workers. | construction workers during the course of site remediation | | | phase | |
| 9.35(v) | For Areas Feasible or Infeasible for On-Site Inspection and Site Investigation | (i) To identify areas with land contamination concern, report laboratory results and | MTR/ Contractor | Areas Infeasible for On-Site Inspection | After land resumption and prior to the construction | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | (i) Phase 2 supplementary SI works<br>▪ Upon site access is granted, site inspection should be carried out to ascertain any contaminative sources and hotspot of contamination within the site.<br>▪ The sampling and testing schedule as recommended in the approved CAP should then be updated based on respective site situation and the number of sampling locations may be significantly reduced. A revised CAP should then be submitted to EPD for endorsement.<br>▪ For supplementary CARs and RAP(s), upon completion of SI and laboratory testing, supplementary CARs should be submitted to EPD for endorsement. If contamination is identified, RAP(s) should also be submitted to EPD for endorsement.<br>▪ The revised CAPs and supplementary CARs and /or RAP(s) should be submitted in separate packages for different works area depending on the schedule of land resumption and the commencement of construction works for each works area.<br>▪ RR(s) should be submitted to demonstrate completion of remediation works before construction work starts at the site.<br>(ii) WSW | propose remediation measures if necessary.<br>(ii) To ensure remediation works have been undertaken to before the commencement of any construction works of the Project that may disturb the ground of the south-western portion of the MPV. | | and Site Investigation and WSW | works commencement at respective sites | |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | ▪ According to WSW EP Condition 3.14, the Project Proponent of the WSW development shall prepare and submit CAR/RAP to EPD within 2 months after commencement of construction of the WSW development and the recommendations in the endorsed CAR/RAP shall be fully implemented before the commencement of any construction works that may disturb the ground of the relevant sites.<br>▪ This project will ensure that the completion of remediation works before the construction works at contaminated areas start. | | | | | |
| **Waste Management Implications (Construction Phase)** | | | | | | |
| S10.107 | Recommendations for good site practices:<br>▪ Prepare a Waste Management Plan approved by the Engineer/Supervising Officer of the Project based on current practices on construction sites;<br>▪ Training of site personnel in, site cleanliness, proper waste management and chemical handling procedures;<br>▪ Provision of sufficient waste disposal points and regular collection of waste;<br>▪ Appropriate measures to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers;<br>▪ Regular cleaning and maintenance programme for | To implement good site practice for handling, sorting reuse and recycling of C&D materials | Contractor | All works areas | Construction phase | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | drainage systems, sumps and oil interceptors; and<br>▪ Separation of chemical wastes for special handling and appropriate treatment. | | | | | |
| S10.108 | Recommendations for waste reduction measures:<br>▪ Sorting of demolition debris and excavated materials from demolition works to recover reusable/ recyclable portions (i.e. soil, broken concrete, metal etc.);<br>▪ Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal;<br>▪ Encourage collection of aluminium cans by providing separate labelled bins to enable this waste to be segregated from other general refuse generated by the workforce;<br>▪ Proper storage and site practices to minimize the potential for damage or contamination of construction materials;<br>▪ Plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste; and<br>▪ Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycle. | To implement on-site sorting facilitating reuse and recycling of materials as well as proper disposal of waste | Contractor | All works areas | Construction phase | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| S10.109 | The Contractor should prepare and implement a Waste Management Plan (WMP) as a part of the Environmental Management Plan (EMP) in accordance with ETWB TCW No. 19/2005 which describes the arrangements for avoidance, reuse, recovery, recycling, storage, collection, treatment and disposal of different categories of waste to be generated from the construction activities. | To keep trace of the generation, minimization, reuse and disposal of C&D materials in the Project | Contractor | All works areas | Construction phase | Implemented |
| S10.112 | Storage of materials on site may induce adverse environmental impacts if not properly managed, recommendations to minimise the impacts include:<br>▪ Waste, such as soil, should be handled and stored well to ensure secure containment, thus minimising the potential of pollution;<br>▪ Maintain and clean storage areas routinely;<br>▪ Stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away; and<br>▪ Different locations should be designated to stockpile each material to enhance reuse. | To minimise potential impacts of waste storage and enhance reusable volume | Contractor | All work areas | Construction phase | Implemented |
| S10.113 | Waste hauliers must hold a valid permit for the collection of waste as stipulated in their permits. Removal of waste should be done in a timely manner. | To collect and remove waste generated | Contractor | All work areas | Construction phase | Implemented |
| S10.114-115 | Implementation of trip-ticket system to monitor waste disposal and control fly-tipping. | To monitor disposal of waste and control fly-tipping | Contractor | All work areas | Construction phase | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | Set up warning signs at vehicular access points reminding drivers of designated disposal sites and penalties of an offence.<br><br>Installation of close-circuited television at access points of vehicles to monitor and prevent illegal dumping. | | | | | |
| S10.117 | Recommendations for excavated materials within works areas:<br><br>▪ Several ramps should be used for transportation of different materials as far as practicable (at SSS/ERS site, both soft and hard materials could be generated with the provision of three ramps, each of them can be used for single material for primary separation). Each ramp should be used for transportation of a single material as far as practicable.<br>▪ If a conveyor system is used, materials should be transported separately on the belts, it is therefore proposed that more than one conveyor belt should be installed if possible. If more than one material is needed to be transported on a single belt, each material should be stockpiled separately once they are removed from the excavation face to the ground and the belt should operate at different times with different materials as far as practicable.<br>▪ Enclosure should also be provided for the conveyor belt, as far as practicable to minimize the of dust generation. | To mitigate and minimize the potential impacts from the storage and transportation of materials within works areas | Contractor | All works areas | Construction Phase | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | ▪ Different locations should be designated for each material during stockpiling. Stockpiling may be needed when the conveyor system is under constraint or when the spoil could not be transported away from works area immediately after excavation. Cover should be provided to dusty stockpiles to avoid the materials from being wind-blown or flushed away by water. It is expected that water spraying system should also be equipped to moisten the materials. | | | | | |
| S10.119 | Wet spoil generated from TBM construction, construction of bored piles and D-wall should be properly handled before disposal to Taishan and Fill Banks respectively for reuse in other projects. Dry materials should be mixed with the wet spoil or by the use of lime to reduce water content where applicable. | To minimise impacts to disposal outlet from reception of wet spoil | Contractor | All works areas | Construction phase | Implemented |
| S10.120 | Wheelwash facilities should be provided before the trucks leave the works area. | To minimise dust impact | Contractor | All works areas | Construction phase | Implemented |
| S10.121 | The Contractor should ensure the on-site separation from inert portion.<br>The waste delivered to landfill should not contain any free water or have water content more than 70% by weight.<br>The haulier must ensure suitable amount of waste would be loaded on different types of trucks used.<br>A one-week notice should be given to EPD with information on Contractor's name and respective contact details. | To meet the requirement for disposal at landfill | Contractor and Waste haulier | All works areas | Construction phase | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| S10.125 | This will generally follow the PNAP 25 in handling of dredged/excavated sediment. The dredged / excavated sediments would be loaded onto barges and transported to existing designated disposal sites allocated by the MFC according to their levels of contamination, as presented below:<br>▪ For Type 1 sediment, the sediments will be excavated/dredged and transport to designated CEDD Facilities, typically at South Cheung Chau and/or Ninepin.<br>▪ For Type 2 sediment, the sediments will be dredged/excavated and transport to designated CEDD Facilities, typically at East Sha Chau for confined marine disposal.<br>▪ For Type 3 sediment, it would require special treatment/disposal before confined marine disposal at CEDD Facilities, typically at East Sha Chau. In order to have the least potential of loss of contaminants to the marine environment, containment of the sediments in geosynthetic containers is proposed when transporting the sediment.<br><br>Field trials are recommended to be undertaken during the detailed design stage to establish the optimum handling method for this approach. The details of the disposal methodology could therefore be confirmed during the detailed design stage, prior to construction. | To dispose sediment in an authorized and least impacted way | Contractor | All works areas with sediments concern | Detailed Design and Construction phase | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| S10.126 | The basic requirements and procedures for dredged / excavated sediment disposal specified under PNAP 252 shall be followed. | To dispose sediment in an authorized and least impacted way | Contractor | All works areas with sediments concern | Construction phase | Implemented |
| S10.127 | The Project Proponent will agree in advance with MFC of CEDD on the site allocation by submitting a Construction & Demolition Material Management Plan. The final disposal sites and arrangement will be determined by the MFC and a dumping permit will be obtained from the DEP prior to the commencement of the dredging and excavation works. | To determine the best handling and disposal option of the sediments. | MTR/ Contractor | All works areas with sediments concern | Detailed Design and Construction phase | Implemented |
| S10.128 | The contractor for the dredging/ excavation works shall apply for the site allocations of marine sediment disposal based on the prior agreement with MFC/CEDD. The contractor shall apply for all necessary permits from relevant authorities for the disposal of dredged / excavated sediment. | To dispose the sediments in an authorized way. | Contractor | All works areas with sediments concern | Construction phase | Implemented |
| S10.129 | If temporary stockpiling of sediments is necessary, the sediment should be covered by tarpaulin and earth bunds or sand bag barriers should be provided on site to prevent leachate from entering the drains and surrounding water bodies. The stockpiling areas should be completely paved or covered by lining avoiding contaminating the soil or groundwater underneath. | To prevent the cross contamination of surrounding soils and water bodies | Contractor | All works areas with sediments concern | Construction phase | Implemented |
| S10.130 | The dredged / excavated sediment should be transported by covering trucks to designated barging points. The barge transporting the sediments to the designated disposal site should be equipped with tight fitting seals | To prevent overflowing of sediments to the surrounding area and water bodies | Contractor | All works areas with sediments concern / | Construction phase | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | to prevent leakage. Besides, the barge should not be filled to a level that would cause overflow of materials or laden water during loading or transportation. | | | trucks / barges | | |
| S10.131 | Loading of the dredged / excavated sediment to the barge should be controlled to avoid splashing and overflowing of the sediment slurry to the surrounding water. | To prevent overflowing of sediments to the surrounding area and water bodies | Contractor | Barging points | Construction phase | Implemented |
| S10.132 | In order to minimise the potential odour emissions during the dredging / excavation operation and transportation of the sediment, the dredged / excavated sediment placed on barges should be properly covered as far as practicable. Requirement of the *Air Pollution Ordinance (Construction Dust) Regulation*, where relevant, should be adhered to during the construction phase of the Project. | To minimise dust and odor impacts to surrounding environment | Contractor | All works areas with sediments concern / Barging points | Construction phase | Implemented |
| S10.134 | Workers should wear protective gloves when carrying out the dredging / excavation works. Adequate washing and cleaning facilities should be provided on site. | To minimise the exposure to the contaminated sediments | Contractor | All works areas with sediments concern | Construction phase | Implemented |
| S10.135 | For allocation of sediment disposal site and application of marine dumping permit, another proposal for sampling and chemical testing of the sediment will be prepared and submitted to the EPD for approval following the procedures in PNAP 252. The approved detailed sampling and chemical testing will be carried out prior to the commencement of the dredging/excavation activities to confirm the sediment disposal method. The contamination levels of the marine sediment to be dredged / excavated have to be analysed | To analyse the sediments quality and determine the best disposal option | Contractor | All works areas with sediments concern | Construction phase | Implemented |

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| | and recorded. After carrying out the sampling and testing, a Sediment Quality Report (SQR) will be prepared for EPD approval as required under the *Dumping at Sea Ordinance* to agree and confirm the quantities and extent of the contamination of the sediments prior to the dredging/ construction contract being tendered. The SQR will include the sampling details, the chemical testing results, quality control records, proposed classification and delineation of sediment according to the requirements of the Appendix A of PNAP 252. | | | | | |
| S10.136 | If chemical wastes are produced at the construction site, the Contractor would be required to register with the EPD as a chemical waste producer and to follow the guidelines stated in the *Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes*. Containers used for storage of chemical waste should :<br>▪ Be compatible with the chemical wastes being stored, maintained in good condition and securely sealed;<br>▪ Have a capacity of less than 450 litres unless the specifications have been approved by EPD; and<br>▪ Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the *Waste Disposal (Chemical Waste) (General) Regulation*. | To properly store the chemical waste within works areas | Contractor | All works areas | Construction phase | Implemented |

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| S10.137 | The chemical storage areas should:<br>▪ Be clearly labelled to indicate corresponding chemical characteristics of the chemical waste and used for storage of chemical waste only;<br>▪ Be enclosed on at least 3 sides;<br>▪ Have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest;<br>▪ Have adequate ventilation;<br>▪ Be covered to prevent rainfall from entering; and<br>▪ Be properly arranged so that incompatible materials are adequately separated. | To prepare appropriate storage areas for chemical waste at works areas | Contractor | All works areas | Construction phase | Implemented |
| S10.138 | Lubricants, waste oils and other chemical wastes would be generated during the maintenance of vehicles and mechanical equipments. Used lubricants should be collected and stored in individual containers which are fully labelled in English and Chinese and stored in a designated secure place. | To clearly label the chemical waste at works areas | Contractor | All works areas | Construction phase | Implemented |
| S10.139 | A trip-ticket system should be operated in accordance with the *Waste Disposal (Chemical Waste) (General) Regulation* to monitor all movements of chemical waste. The Contractor should employ a licensed collector to transport and dispose of the chemical wastes, to either the approved CWTC at Tsing Yi, or another licensed facility, in accordance with the *Waste Disposal* | To monitor the generation, reuse and disposal of chemical waste | Contractor | All works areas | Construction phase | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | *(Chemical Waste) (General) Regulation*. | | | | | |
| S10.140 | General refuse should be stored in enclosed bins or compaction units separate from C&D materials and chemical waste. A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D materials and chemical wastes. | To properly store and separate from other C&D materials for subsequent collection and disposal | Contractor | All works areas | Construction phase | Implemented |
| S10.141 | The recyclable component of general refuse, such as aluminium cans, paper and cleansed plastic containers should be separated from other waste. Provision and collection of recycling bins for different types of recyclable waste should be set up by the Contractor. The Contractor should also be responsible for arranging recycling companies to collect these materials. | To facilitate recycling of recyclable portions of refuse | Contractor | All works areas | Construction phase | Implemented |
| S10.142 | The Contractor should carry out a training programme for workers in avoiding, reducing, reusing and recycling of materials generation. Posters and leaflets advising on the use of the bins should also be provided in the sites as reminders. | To raise workers' awareness on recycling issue | Contractor | All works areas | Construction phase | Implemented |
| **Waste Management Implications (Operation Phase)** | | | | | | |
| S10.146-10.147 | Chemical waste:<br>▪ The requirements stipulated in the *Code of Practice* | To avoid environmental impacts in handling, storage and disposal of | MTR | Ventilation buildings, SSS and | Operation phase | To be implemented as per |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | *on the Packaging, Labelling and Storage of Chemical Wastes* should be followed in handling of chemical waste as in construction phase.<br><br>▪ A trip-ticket system should be operated in accordance with the *Waste* Disposal *(Chemical Waste) (General) Regulation* to monitor all movements of chemical wastes which would be collected by a licensed collector to a licensed facility for final treatment and disposal.<br><br>▪ The recommendations proposed for the mitigation of impacts from chemical waste in construction phase should also be followed (refer to S10.104-S10.106). | chemical waste | | WKT | | construction programme |
| S10.148-S10.149 | General refuse:<br><br>▪ Provide recycling bins at designated areas for proper recycling of papers, aluminium cans and plastics bottles.<br><br>▪ Separation from other waste types and collected by licensed collectors at daily basis to minimize the potential impacts from odour and vermin. | To separate general refuse from other waste types and proper disposal of the refuse | MTR | Ventilation buildings, SSS and WKT | Operation phase | To be implemented as per construction programme |
| S10.150 | Industrial waste:<br><br>▪ Separation of reusable components like steel before | To recycle useful materials from industrial waste and proper disposal | MTR | Ventilation buildings, SSS and | Operation phase | To be implemented as per |

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| | collection by licensed collector | | | WKT | | construction programme |
| **Water Quality Impact (Construction Phase)** | | | | | | |
| S11.128 - S11.153 | Construction site run-off and general construction activities:<br>▪ The mitigation measures as outlined in the ProPECC PN 1/94 Construction Site Drainage should be adopted where applicable. | To control water quality impact from construction site runoff and general construction activities | MTR / Contractor | All works areas | Construction phase | Implemented |
| S11.154 | Groundwater seepages from uncontaminated area:<br>▪ In case seepage of uncontaminated groundwater occurs, groundwater should be pumped out from the works areas and discharged into the storm system via silt removal facilities. Uncontaminated groundwater from dewatering process should also be discharged into the storm system via silt traps. | To control water quality impact from groundwater from uncontaminated area | MTR / Contractor | All works areas | Construction phase | Implemented |
| S11.155 | As the proposed WKT is near the Victoria Harbour, high ground water level regime due to both tidal effects and rainwater infiltration is anticipated. A cofferdam wall should be built to limit groundwater inflow to the excavation works areas in the WKT site. | To control water quality impact from groundwater from uncontaminated area | MTR / Contractor | WKT | Construction phase | Implemented |

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| S11.156 | To monitor the tide and groundwater relationship, it is recommended to install groundwater level loggers at the nearest tidal areas (i.e. near Mai Po). | To monitor the groundwater level | MTR / Contractor | Mai Po | Construction phase | Implemented |
| S11.157 - S11.158 | Site Runoff or Groundwater from contaminated areas:<br>▪ No directly discharge of groundwater from contaminated areas should be adopted.<br>▪ Prior to any excavation works within the potentially contaminated areas, the baseline groundwater quality in the areas should be reviewed based on the past relevant site investigation data and any additional groundwater quality measurements to be performed with reference to *Guidance Note for Contaminated Land Assessment and Remediation* and the review results should be submitted to EPD for examination. If the review results indicated that the groundwater to be generated from the excavation works would be contaminated, this contaminated groundwater should be either properly treated or properly recharged into the ground in compliance with the requirements of the TM-DSS.<br>▪ If wastewater treatment is to be deployed for treating the contaminated groundwater, the wastewater treatment unit shall deploy suitable treatment processes (e.g. oil interceptor / activated carbon) to reduce the pollution level to an acceptable standard and remove any prohibited | To control water quality impact from contaminated groundwater | MTR / Contractor | Excavation areas where contaminated ground-water is found | Construction phase | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | substances (such as TPH) to an undetectable range.<br>▪ All treated effluent from the wastewater treatment plant shall meet the requirements as stated in TM-DSS and should be either discharged into the foul sewers or tankered away for proper disposal.<br>▪ If deployment of wastewater treatment is not feasible for handling the contaminated groundwater, groundwater recharging wells should be installed as appropriate for recharging the contaminated groundwater back into the ground. The recharging wells should be selected at places where the groundwater quality will not be affected by the recharge operation as indicated in section 2.3 of the TM-DSS. The baseline groundwater quality should be determined prior to the selection of the recharge wells, and submit a working plan to EPD for agreement. Pollution levels of groundwater to be recharged shall not be higher than pollutant levels of ambient groundwater at the recharge well. Groundwater monitoring wells should be installed near the recharge points to monitor the effectiveness of the recharge wells and to ensure that no likelihood of increase of groundwater level and transfer of pollutants beyond the site boundary. Prior to recharge, free products should be removed as necessary by installing the petrol interceptor. The Contractor should apply for a discharge licence under the WPCO through | | | | | |

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| | the Regional Office of EPD for groundwater recharge operation or discharge of treated groundwater. | | | | | |
| S11.128 - S11.136, S11.160 | Barging points:<br><br>Mitigation measures for control water quality impact from surface run-off should be applied.<br><br>The following good site practices should also be adopted:<br>▪ all vessels should be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash<br>▪ all hopper barges should be fitted with tight fitting seals to their bottom openings to prevent leakage of material<br>▪ construction activities should not cause foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site<br>▪ loading of barges and hoppers should be controlled to prevent splashing of material into the surrounding water. Barges or hoppers should not be filled to a level that will cause the overflow of materials or polluted water during loading or transportation | To control water quality impact from barging point | MTR / Contractor | All barging Points | Construction phase | Implemented |

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| S11.161 | Effluent discharge:<br><br>There is a need to apply to EPD for a discharge licence for discharge of effluent from the construction site under the WPCO. The discharge quality should meet the requirements specified in the discharge licence. Minimum distances of 100 m should be maintained between the discharge points of construction site effluent and the existing seawater intakes. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the WPCO license which is under the ambit of regional office (RO) of EPD. | To control water quality impact from effluent discharge from construction site | MTR / Contractor | All works areas | Construction phase | Implemented |
| S11.162 | Accidental spillage of chemicals:<br><br>Contractor should register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes**.** | To control water quality impact from accidental chemical spillage | MTR / Contractor | All works areas | Construction phase | Implemented |
| S11.163 | Any service shop and maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should | To control water quality impact from accidental chemical spillage | MTR / Contractor | All works areas | Construction phase | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | only be undertaken within the areas appropriately equipped to control these discharges. | | | | | |
| S11.164 | Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows:<br>▪ Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport.<br>▪ Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents.<br>▪ Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area. | To control water quality impact from accidental chemical spillage | MTR / Contractor | All works areas | Construction phase | Implemented |
| S11.165 | Surface construction works at or in close proximity of watercourses or seafront:<br>▪ The proposed surface construction works should be carried out in dry season as far as practicable where the flow in the river channel or stream is low.<br>▪ The use of less or smaller construction plants may | To control water quality impact from construction works at or in close proximity of watercourses or seafront | MTR / Contractor | All works areas | Construction phase | Implemented |

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| | be specified to reduce the disturbance to the riverbed or pond deposits.<br>▪ Temporary sewerage system should be designed to prevent wastewater from entering the river, streams and sea.<br>▪ Temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction materials should be located well away from any water courses during carrying out of the construction works.<br>▪ Stockpiling of construction materials and dusty materials should be covered and located away from any water courses.<br>▪ Construction debris and spoil should be covered up and/or disposed of as soon as possible to avoid being washed into the nearby water receivers.<br>▪ Construction activities, which generate large amount of wastewater, should be carried out in a distance away from the waterfront, where practicable.<br>▪ Mitigation measures to control site run-off from entering the nearby water environment should be implemented to minimize water quality impacts. Surface channels should be provided along the edge of the waterfront within the work sites to intercept the run-off.<br>▪ Construction effluent, site run-off and sewage | | | | | |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | should be properly collected and/or treated.<br>▪ Any works site inside the water courses should be temporarily isolated. The water flow should be temporarily diverted to downstream by using PVC pipes, steel arrays in concrete case or similar, restricting the excavation works to be conducted within an enclosed dry section of the channel. This works arrangement would provide a dry zone for excavation works within the river channel and would prevent the conveyance of suspended sediment downstream. Dewatering at works section should be conducted prior to the commencement of works. Further limiting or reducing the works area inside the water courses should be considered during wet season or rainstorm event in order to reduce the area of exposed surface.<br>▪ Silt curtain should be installed around the construction activities at or near the watercourses to minimize the potential impacts due to accidental spillage of construction wastes and excavated materials.<br>▪ Proper shoring may need to be erected in order to prevent soil or mud from slipping into the watercourses.<br>▪ Supervisory staff should be assigned to station on site to closely supervise and monitor the works. | | | | | |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| S11.166 | Surface construction works close to water gathering grounds:<br>▪ The conditions as specified in WSD guidelines on protection of Water Gathering Ground should be followed or observed where practicable | To control water quality impact from surface construction works close to Water Gathering Ground | MTR / Contractor | Works areas close to water gathering ground | Construction phase | To be implemented as per construction programme |
| S11.167 | Dredging of marine sediments at LKST:<br>▪ Closed grab dredger should be used to minimize the loss of sediment during the raising of the loaded grabs through the water column.<br>▪ No more than one closed grab dredger should be operated at any one time.<br>▪ Double silt curtains should be deployed around the dredging operations as far as practicable.<br>▪ The descent speed of grabs should be controlled to minimize the seabed impact speed.<br>▪ Barges should be loaded carefully to avoid splashing of material.<br>▪ All barges used for the transport of dredged materials should be fitted with tight bottom seals in order to prevent leakage of material during loading and transport.<br>▪ All barges should be filled to a level which ensures that material does not spill over during loading and transport to the disposal site and that adequate | To minimize the loss of fine sediment to suspension during dredging of marine sediments at LKST | MTR / Contractor | Marine dredging at LKST | Construction phase | To be implemented as per construction programme |

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| | freeboard is maintained to ensure that the decks are not washed by wave action. | | | | | |
| S11.83 and S11.165 | Diversion of watercourse:<br>▪ The excavation works at the existing stream in Shek Kong/ Kam Tin Nullah should be carried out by approved methods by the Engineer to minimise erosion. Should excavation works be carried out at the designated section of water course, temporary river diversion should be conducted prior to the commencement of works to avoid water flowing into works area. The temporary diversion of water flow should be performed by appropriate means, such as completing the construction of the proposed channel section for carrying diverted flow prior to excavation works, or other similar methods, as approved by the Engineer to suit the works condition. This works arrangement would provide a dry zone for excavation works within the river channel and would prevent the conveyance of suspended sediment downstream. Dewatering at works section should also be conducted prior to the commencement of works.<br>▪ Mitigation measures for minimizing the water quality impact for surface construction works at or close to the watercourses should also be applied. | To control water quality impact due to diversion of watercourse | MTR / Contractor | Watercourse to be diverted in Shek Kong | Construction phase | Implemented |
| S. | Hydrogeological Impact: | To control groundwater | MTR/ | All works | Construction | Implemented |

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| 11.169 - 11.173 | For the cut and cover tunnels and associated excavations for vent buildings and emergency access/escape points, the following measures should be in place in order to mitigate any drawdown effects to the groundwater table during the operation of the temporary dewatering works:<br>▪ Toe grouting should be applied beneath the toe level of the temporary/permanent cofferdam walls as necessary to lengthen the effective flow path of groundwater from outside and thus control the amount of water inflow to the excavation.<br>▪ Recharge wells should be installed as necessary outside the excavation areas. Water pumped from the excavation areas should be recharge back into the ground.<br><br>The bored tunnels should be constructed using a closed face tunnel boring machine to limit water inflow into the excavation face. The cutter head for the machine will be sealed during excavation and therefore the water inflow from the face will be very small. Precast undrained linings should be installed and back grouted behind the tunnel boring machine as it advances along the alignment to minimize the potential inflow of water behind the cutter head.<br><br>The Contractor should initially adopt suitable water | hydrogeological impact and groundwater drawdown | Contractor | areas | phase | |

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| | control strategies while undertaking the excavation works. The water control strategies are shown as follow:<br><br>▪ Probing Ahead: As normal practice, the Contractor will undertake rigorous probing of the ground ahead of tunnel excavation works to identify zones of significant water inflow. The probe drilling results will be evaluated to determine specific grouting requirements in line with the tunnel advance. In such zones of significant water inflow that could occur as a result of discrete, permeable features, the intent would be to reduce overall inflow by means of cut-off grouting executed ahead of the tunnel advance.<br>▪ Pre-grouting: Where water inflow quantities are excessive, pre-grouting will be required to reduce the water inflow into the tunnel. The pre-grouting will be achieved via a systematic and carefully specified protocol of grouting.<br>▪ In principle, the grout pre-treatment would be designed on the basis of probe hole drilling ahead of the tunnel face.<br><br>In the event of excessive drawdown being observed within the ground water table as a result of the tunnelling works even after incorporation of the water control strategies, post-grouting will be applied as | | | | | |

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| | described below:<br><br>▪ Post-grouting: Groundwater drawdown will be most likely due to inflows of water into the tunnel that have not been sufficiently controlled by the pre-grouting measures. Where this occurs post grouting will be undertaken before the lining is cast. Whilst unlikely to be required in significant measure, such a contingency should be allowed for reduction in permeability of the tunnel surround (by grouting) to limit inflow to acceptable levels.<br><br>A detailed groundwater monitoring programme should be developed in detailed design stage to monitor both the proposed works and the impact of those works on the adjacent area. | | | | | |
| **Water Quality Impact (Operation Phase)** | | | | | | |
| S11.174 | Tunnel run-off and drainage:<br><br>▪ Track drainage channels discharge should pass through oil/grit interceptors/chambers to remove oil, grease and sediment before being pumped to the foul sewer/holding tank for further disposal.<br>▪ The silt traps and oil interceptors should be cleaned and maintained regularly.<br>▪ Oily contents of the oil interceptors should be transferred to an appropriate disposal facility, or to | To control runoff from rail track | MTR / DDC | Tunnels and rail tracks | Operation phase | To be implemented as per construction programme |

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| | be collected for reuse, if possible. | | | | | |
| S11.175 – S11.176 | Sewage effluents:<br>▪ Connection of domestic sewage generated from the Project should be diverted to the foul sewer wherever possible. If public sewer system is not available, sewage tanking away services or on-site sewage treatment facilities should be provided to prevent direct discharge of sewage to the nearby storm system and all the discharge should comply with the requirements stipulated in the TM-DSS.<br>▪ For handling, treatment and disposal of other operation stage effluent, the practices outlined in ProPECC PN 5/93 should be adopted where applicable. | To control water quality impact from sewage effluent discharge ventilation buildings, SSS and WKT | MTR / DDC | Ventilation buildings, SSS and WKT | Operation phase | To be implemented as per construction programme |
| S11.177-S11.181 | Shek Kong Stabling Sidings (SSS):<br>▪ All the maintenance areas within the SSS should be housed or covered to prevent generation of contaminated rainwater runoff. All wastewater generated from the maintenance and cleaning activities should be collected and diverted to oil interceptor or other appropriate treatment facilities for proper treatment so that it satisfies the requirements stipulated in the TM-DSS.<br>▪ In case there is no pubic sewer available for the SSS during the operation phase, all wastewater generated or collected in the SSS should be | To control water quality impacts from the operation of Shek Kong Stabling Sidings | MTR/DDC | SSS | Operation phase | To be implemented as per construction programme |

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| | tankered away for proper disposal to prevent direct discharge of any wastewater to the nearby surface water system.<br>▪ Oil interceptors should be regularly inspected and cleaned to avoid wash-out of oil during storm conditions. A bypass would be provided to avoid overload of the interceptor's capacity.<br>▪ All waste oils and fuels should be collected and handled in compliance with the Waste Disposal Ordinance. Site drainage should be well maintained and good management practices should be observed to ensure that oils and chemicals are managed, stored and handled properly and do not enter the nearby water streams. Areas for chemical storage should be securely locked. The storage area should have an impermeable floor and bunding of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest, to minimize the impacts from any potential accidents. In case of the occurrence of accidental spillage of chemicals, it is required to take immediate actions to control the release of chemicals.<br>▪ Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under | | | | | |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | the Waste Disposal Ordinance details the requirements to deal with chemical wastes. | | | | | |
| S11.182 | For any future maintenance desilting of the newly constructed or diverted watercourses, temporary barrier walls should be used to provide a dry zone for desilting work. Maintenance desilting should be carried out during periods of low flow in the dry season. | To control water quality impact due to maintenance desilting of the newly constructed or diverted watercourses | MTR | Diverted watercourses in Shek Kong | Operation phase | To be implemented as per construction programme |
| **Air Quality (Construction Phase)** | | | | | | |
| S 12.78 | For concrete batching plant, the requirements and mitigation measures stipulated in the *Guidance Note on the Best Practicable Means for Cement Works (Concrete Batching Plant) BPM 3/2(93)* should be followed and implemented. | To minimize dust impacts | MTR / Contractor | Concrete batching plant at works area V | Construction phase | Implemented |
| Table 12.9 and Table 12.12 | The design emission concentration of dust collector for different types of silos for concrete batching plant should be:<br>▪ Dust collector for each small Cement Silo ≤ 30 $mg/m^3$<br>▪ Dust collector for each Large Capacity Cement Silo ≤ 50$mg/m^3$<br>▪ Dust collector for each PFA Silo ≤ 30 $mg/m^3$<br>▪ Dust collector for each Mixer ≤ 40 mg/m3 | To minimize dust impacts | MTR / Contractor | Concrete batching plant at works area V | Construction phase | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | During operation of concrete batching plant:<br>▪ The aggregates should be unloaded from the tipper trucks to the receiving hopper equipped with enclosures on 3 sides and top cover, and water spraying system.<br>▪ The cement and PFA should be directly loaded into the silo via a flexible duct. Dust collectors should be installed at the cement/PFA silo based on the above design emission rates.<br>▪ The aggregates should be stored in fully enclosed overhead storage bins. The top of overhead storage bins should be covered with cladding. Water spraying system should be installed at the top of storage bins for watering the aggregates, and aggregate storage bins should be fully enclosed.<br>▪ The whole process of weighing and mixing of cementitious material should be performed in a fully enclosed environment. The mixers shall equip with the dust collectors based on the above design emission rates.<br>▪ The concrete should be directly loaded from the mixer into the transit mixer of a truck in "wet" form.<br>▪ Haul road within the site should be paved. Wheel washing pit should be installed at the gate of the concrete batching plant. Water spraying system | | | | | |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | should be installed along the haul road. | | | | | |
| Table 12.10 | (1) Cut & Cover Areas and Stockpiles in the vicinity of adits/shafts:<br>(a) Heavy construction activities at Cut & Cover Areas, Storage of materials at Stockpiles - Active areas for heavy construction activities, loading & unloading materials at stockpiles<br>▪ The specified requirements for cut & cover areas and stockpiles at Shek Kong, Nam Cheong and West Kowloon works areas are as follows:<br>(i) Shek Kong works area – active area minimized to 15% of total area, watering with complete coverage of active area ten times a day.<br>(ii) Nam Cheong works area – active area minimized to 30% of total area, watering with complete coverage of active stockpile area four times a day.<br>(iii) West Kowloon works area – active area minimized to 15% of total area, watering with complete coverage of active area eight times a day.<br>▪ For other sites, the active area would be minimized | To minimize dust impacts | MTR / Contractor | All works areas | Construction phase | Implemented |

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| | to 30% of the total area, water spraying system would be applied on the active area and watering with complete coverage of active area four times a day would be required.<br>▪ The remaining inactive area would be well covered with impervious sheeting at all work sites.<br>(b) Trucks - Transportation of materials<br>▪ Wheel wash facilities provided at the site exit. The vehicles should be washed before leaving the stockpiles. The spoils should also be well covered before leaving the site in order to minimise generation of dusty materials.<br>▪ The haul roads within the site should be paved and water spraying would be provided to keep the wet condition.<br>▪ For the Shek Kong works area, watering paved haul roads once per hour would be provided.<br>(2) Temporary stockpiles within barging facilities:<br>(a) Loading point - Loading of spoils from trucks onto stockpile<br>▪ Water spraying should be provided at the loading points to suppress the dust impact.<br>(b) Storage of materials - Active area for loading & | | | | | |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | unloading materials<br>▪ Water spraying system should be applied on the active area and watering with complete coverage of active area four times a day is required. | | | | | |
| Table 12.11 | Barging facilities:<br>(1) Haul road within barging facilities - Transportation of spoils to the barging points<br>▪ All road surfaces within the barging facilities should be paved and water spraying should be provided to keep the wet condition. For paved haul roads at West Kowloon and Nam Cheong, watering haul road once per hour is required.<br>(2) Unloading of materials - Unloading of spoil materials<br>▪ The unloading process should be undertaken within enclosed tipping hall. Water spraying and dust curtain should be provided at the discharge point for dust suppression.<br>(3) Trucks - Vehicles leaving the barging facilities<br>▪ Vehicle wheel washing facilities should be provided at site exit.<br>(4) Transportation of spoils to one of the Nam Cheong Barging Point<br>▪ Fully enclosed conveyor system should be adopted | To minimize dust impacts | MTR / Contractor | All barging points | Construction phase | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | for transportation of spoils from shaft to the barging point. | | | | | |
| S 12.78 | Dust suppression measures stipulated in the Air Pollution Control (Construction Dust) Regulation and good site practices:<br>▪ Use of regular watering, with complete coverage, to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather.<br>▪ Use of frequent watering for particularly dusty construction areas and areas close to ASRs.<br>▪ Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering should be applied to aggregate fines.<br>▪ Open stockpiles should be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs.<br>▪ Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.<br>▪ Establishment and use of vehicle wheel and body washing facilities at the exit points of the site.<br>▪ Provision of wind shield and dust extraction units or similar dust mitigation measures at the loading points, and use of water sprinklers at the loading | To minimize dust impacts | MTR / Contractor | All works areas | Construction phase | Implemented |

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| | area where dust generation is likely during the loading process of loose material, particularly in dry seasons/ periods.<br>▪ Imposition of speed controls for vehicles on unpaved site roads. 8 kilometers per hour is the recommended limit.<br>▪ Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs.<br>▪ Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides.<br>▪ Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed.<br>▪ Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system. | | | | | |
| S12.94 | Environmental monitoring and audit for dust emission should be conducted in accordance with EM&A Manual during the construction phase of the Project to check | To monitor dust impact | MTR / Contactor | Proposed monitoring locations | Design and operation phases | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | compliance with legislative requirements. | | | | | |
| **Air Quality (Operation Phase)** | | | | | | |
| S12.48 | The vent shafts of the stations should be designed to be sited at more than 5m from any opening at the adjacent building | To alleviate the adverse air quality impact in the stations | MTR | WKT | Design and operation phases | To be implemented as per construction programme |
| S12.50 | The design of the mechanical air ventilation for PTI should follow EPD's ProPECC PN1/98 Control of Air Pollution in Semi-confined Public Transport Interchanges. | To alleviate the adverse air quality impact in the PTI | MTR | PTI at the ground floor of ventilation building complex at WKT | Design and operation phases | To be implemented as per construction programme |
| **Hazard to Life** | | | | | | |
| S13.96/ S13.99 | Improved truck design to reduce the amount of combustibles in the cabin and fuel carried in the fuel tank should be minimised to reduce the duration of any fire. The truck should be brand new, diesel powered and equipped with fuel and battery isolation switches, front exhaust spark arrester, 1 x 9 kg water based and 1 x 9 kg dry chemical powder fire extinguishers. This should be | To meet the ALARP requirement | MTRC/ Contractor | - | Construction phase | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | combined with monthly vehicle inspection | | | | | |
| S13.96 | The explosive truck accident frequency should be minimized by implementing a dedicated training programme for both the driver and his attendants, including regular briefing sessions, implementation of a defensive driving attitude. In addition, drivers should be selected based on good safety record, and medical checks. | To meet the ALARP requirement | MTRC/ Contractor | - | Construction phase. | Implemented |
| S13.96 | The contractor should as far as practicable combine the explosive deliveries for a given work area. | To meet the ALARP requirement | MTRC/ Contractor | - | Construction phase | Implemented |
| S13.96 | The explosive truck fire involvement frequency should be minimized by implementing a better emergency response and training to make sure the adequate fire extinguishers are used and attempt is made to evacuate the area of the incident or securing the explosive load if possible. All explosive vehicles should also be equipped with bigger capacity AFFF-type extinguishers. | To meet the ALARP requirement | MTRC/ Contractor | - | Construction phase | Implemented |
| S13.96 | A minimum headway between two consecutive truck conveys of at least 10 min is recommended | To meet the ALARP requirement | MTRC/ Contractor | Along explosives transport route. | Construction phase. | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| S13.96/ S13.105 | Only the required quantity of explosives for a particular blast should be transported to avoid the return of unused explosives to the magazines.<br>If disposal is required for small quantities, disposal should be made in a controlled and safe manner by a Registered Shotfirer. | To reduce the risk during explosives transport | MTRC/ Contractor | - | Construction phase | Implemented |
| S13.97 | Blasting activities including storage and transport of explosives should be supervised and audited by competent site staff to ensure strict compliance with the blasting permit conditions. | To ensure that the risks from the proposed explosives storage and transport would be acceptable | MTRC / Contractor | Works areas at which explosives would be stored and/or used. | Construction phase | Implemented |
| S13.97 | Emergency plan (ie magazine operational manual) shall be developed to address uncontrolled fire in magazine area and transport. The case of fire near an explosive carrying truck in jammed traffic should also be covered. Drill of the emergency plan should be carried out at regular intervals. | To reduce the risk of fire | MTRC/ Contractor | Explosive Magazine and along explosives transport route. | Construction phase | Implemented |
| S13.97 | Adverse weather working guideline should be developed to clearly define procedure for transport explosives during | To ensure safe transport of explosives | MTRC/ Contractor | Along explosives transport | Construction phase | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | thunderstorm. | | | route. | | |
| S13.98 | Delivery vehicles shall not be permitted to remain within the secured fenced off magazine store area. | To reduce the risk of fire within the magazine | MTRC / Contractor | Explosive Magazine | Construction phase | Implemented |
| S13.98 | Good house-keeping within and outside of the magazine to ensure that combustible materials (including vegetation) are removed and not allowed to accumulate. | To reduce the risk of fire within the magazine | MTRC / Contractor | Explosive Magazine | Construction phase | Implemented |
| S13.99/ S13.101 | Use only experienced driver(s) with good safety record. Training should be provided to ensure it covers all major safety subjects. | To ensure safe transport of explosives | MTRC/ Contractor | - | Construction phase | Implemented |
| S13.99 | Develop procedure to ensure that parking space on the site is available for the explosive truck. Confirmation of parking space should be communicated to truck drivers before delivery. | To ensure that the risks from the proposed explosives storage and transport would be acceptable | MTRC/ Contractor | Explosive magazine | Construction phase | Implemented |
| S13.99 | Detonators shall not be transported in the same vehicle with other Class 1 explosives | To reduce the risk of explosion during the transport of cartridge emulsion | MTRC / Contractor | - | Construction phase | Implemented |
| S13.99 | During transport of the explosives within the tunnel, hot work should not be permitted in the vicinity of the | To ensure safe transport of explosives | MTRC/ Contractor | Along explosives | Construction phase | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | explosives offloading or charging activities. | | | transport route. | | |
| S13.99 | Ensure that packaging of detonators remains intact until handed over at blasting site. | To reduce the risk of explosion during the transport of detonator | MTRC/ Contractor | - | Construction phase | Implemented |
| S13.99 | Horizontal fire screen on cargo deck and vertical fire screen mounted at least 150 mm behind the drivers cab and 100 mm from the steel cargo compartment, the vertical screen shall protrude 150 mm in excess of all three (3) sides of the steel cargo compartment. | To reduce the risk during explosives transport | MTRC/ Contractor | - | Construction phase | Implemented |
| S13.104 | Ensure that cartridge emulsion with high water content should be preferred. Also, the emulsion with perchlorate formulation should be avoided. | To ensure safe explosives to be used | MTRC/ Contractor | - | Construction phase | Implemented |
| **Landfill Gas Hazard – Design and Construction Phases** | | | | | | |
| S14.73 & S14.86 | - All personnel who work on site and all visitors to the site should be made aware of the possibility of ignition of gas in the vicinity of excavations. Safety notices should be posted warning of the potential hazards. | Protect the workers from landfill gas hazards | Contractor | XRL tunnels within the NTML Consultation Zone, Barging Point and Nursery | Construction phase | To be implemented as per construction programme |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
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| | | | | Site | | |
| S14.73 | - Those staff who work in, or have responsibility for "at risk" areas, including all excavation workers, supervisors and engineers working within the Consultation Zone, should receive appropriate training on working in areas susceptible to landfill gas, fire and explosion hazards. | Protect the workers from landfill gas hazards | Contractor | XRL tunnels within the NTML Consultation Zone | Construction phase | To be implemented as per construction programme |
| S14.73 | - During all works, safety procedures will be implemented to minimise the risks of fires and explosions and asphyxiation of workers (especially in confined space). | Protect the workers from landfill gas hazards | Contractor | XRL tunnels within the NTML Consultation Zone | Construction phase | To be implemented as per construction programme |
| S14.73 | - Safety officers, specifically trained with regard to landfill gas related hazards and the appropriate actions to take in adverse circumstances will be present on all worksites throughout the works. | Protect the workers from landfill gas hazards | Contractor | XRL tunnels within the NTML Consultation Zone | Construction phase | To be implemented as per construction programme |
| S14.73, S14.86, S14.87 | - Smoking and naked flames will be prohibited within confined spaces. 'No Smoking' and 'No Naked Flame' notices in Chinese and English will be posted prominently around the construction site. Safety | Protect the workers from landfill gas hazards | Contractor | XRL tunnels within the NTML Consultation | Construction phase | To be implemented as per construction |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
|---|---|---|---|---|---|---|
| | notices should be posted warning of the potential hazards. | | | Zone, Barging Point and Nursery Site | | programme |
| S14.73 | - Welding, flame-cutting or other hot works may only be carried out in confined spaces when controlled by a 'permit to work' procedure, properly authorised by the Safety Officer. The permit to work procedure will set down clearly the requirements for continuous monitoring of methane, carbon dioxide and oxygen throughout the period during which the hot works are in progress. The procedure will also require the presence of an appropriately qualified person who shall be responsible for reviewing the gas measurements as they are made, and who shall have executive responsibility for suspending the work in the event of unacceptable or hazardous conditions. Only those workers who are appropriately trained and fully aware of the potentially hazardous conditions which may arise will be permitted to carry out hot works in confined areas. | Protect the workers from landfill gas hazards | Contractor | XRL tunnels within the NTML Consultation Zone | Construction phase | To be implemented as per construction programme |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
|---|---|---|---|---|---|---|
| S14.73 | - A mechanical ventilation system must be in use at all times during which personnel are engaged in works inside the tunnel or excavation and be evacuated in the event of power outages. Work must not be carried out in the absence of mechanical ventilation and supervision of adequately trained safety personnel. In exceptional case where work is carried out under non-ventilated condition, any electrical equipment used, such as motors and extension cords, should be intrinsically safe. | Protect the workers from landfill gas hazards | Contractor | XRL tunnels within the NTML Consultation Zone | Construction phase | To be implemented as per construction programme |
| S14.73 | - Adequate fire extinguishing equipment, fire-resistant clothing and breathing apparatus sets should be made available on site. | Protect the workers from landfill gas hazards | Contractor | XRL tunnels within the NTML Consultation Zone | Construction phase | To be implemented as per construction programme |
| S14.86 | - Raising the site office 500mm above ground. | Protect the workers from landfill gas hazards | Contractor | Barging Point | Construction phase | Implemented |
| S14.86 | - Utilities services connected to the site office and the annulus around these service entry points should be properly sealed. | Protect the workers from landfill gas hazards | Contractor | Barging Point | Construction phase | Implemented |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
|---|---|---|---|---|---|---|
| S14.74 | - Construction works to be undertaken in confined space should follow the relevant Regulations under Chapter 59 Factories and Industrial Undertakings Ordinance and Chapter 509 Occupational Health and Safety Ordinance. | Protect the workers from landfill gas hazards | Contractor | XRL tunnels within the NTML Consultation Zone | Construction phase | To be implemented as per construction programme |
| S14.73 | - Monitoring of methane, carbon dioxide and oxygen inside the XRL tunnels. | Protect the workers from landfill gas hazards | Contractor | XRL tunnels within the NTML Consultation Zone | Construction phase | To be implemented as per construction programme |
| S14.75 | - A walkover survey to monitor flammable gas at all joints and cracks, if identified, upon completion of the tunnel work. Rectifications, such as sealing of cracks and inspection of tunnel seals, shall be carried out for any signs of the presence of flammable gas. The survey should be conducted under non-ventilated condition and before starting the work of the day. | Confirm no landfill gas ingress into the XRL tunnels | Contractor | XRL tunnels within the NTML Consultation Zone | Construction phase | To be implemented as per construction programme |
| S14.76 | - Weekly monitoring of methane, carbon dioxide and oxygen in the form of a walkover survey at 20m intervals for section of tunnels under NTML and 50m interval within the NTML Consultation Zone should | Confirm no landfill gas ingress into the XRL tunnels | Contractor | XRL tunnels within the NTML Consultation | Construction phase | To be implemented as per construction |

| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
|---|---|---|---|---|---|---|
| | be conducted after completion of the tunnel construction works and not less than 3 months before commencement of operation. The survey should be conducted under non-ventilated condition and before starting the work of the day. | | | Zone | | programme |
| S14.77 | - A summary of the monitoring results should be submitted to EPD for record before the commencement of operational phase. The results should be reviewed and agreed with EPD before the commencement of operation to determine the monitoring requirements during the operational phase | To review and agree the monitoring requirement during the operational phase | MTR/ Contractor | - | Before operation | To be implemented as per construction programme |
| S14.78 | - Appropriate sealant will be applied to joints to prevent the ingress of groundwater, which will also form a low permeability gas barrier. Good workmanship and adequate construction supervision will be required to ensure the actual works are implemented as per the design requirements. This will be implemented by MTRC's Material and Workmanship Specification. | Protect the XRL tunnels from landfill gas hazards | Design Engineer/ Contractor | XRL tunnels within the NTML Consultation Zone | Design and Construction phases | To be implemented as per construction programme |
| S14.79 | - Adequate ventilation will be needed as part of the tunnel design to act as an active gas control when | Protect the XRL tunnels from landfill gas hazards | Design Engineer | XRL tunnels within the | Design phase | To be implemented |

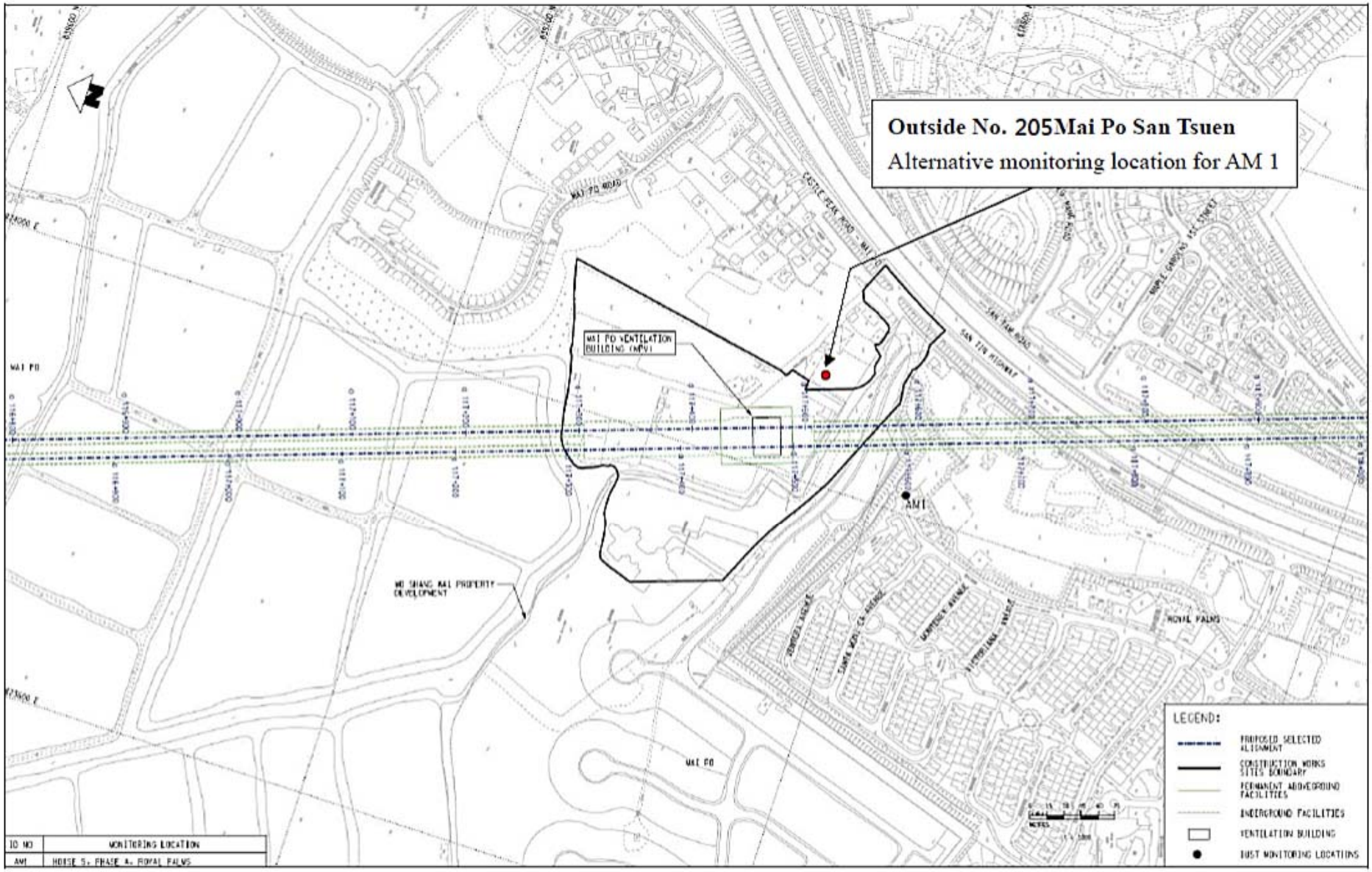
| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
|---|---|---|---|---|---|---|
| | needed. | | | NTML Consultation Zone | | as per construction programme |
| S14.80 | - Upon completion of the landfill gas protection measures, a report on the implemented landfill gas protection measures with relevant as-built drawings and other detailed information showing that the design measures mentioned in this assessment to protect the tunnels from landfill gas hazard have been properly incorporated should be submitted to EPD. | Ensure landfill gas protection measures have been completed | Contractor | XRL tunnels within the NTML Consultation Zone | Construction phase | To be implemented as per construction programme |
| **Landfill Gas Hazard – Operation Phase** | | | | | | |
| S14.76 | - Ventilation of the tunnels should be switched on for half an hour before the first train is expected (the requirement to implement this measure is subject to findings of the review of landfill gas monitoring data with EPD before the commencement of operation). | Protect the operation of the XRL from landfill gas hazards | MTR | XRL tunnels within the NTML Consultation Zone | Operation phase | To be implemented as per construction programme |
| S14.76 | - All maintenance personnel and station staff working within the tunnels should be educated in the dangers of landfill gas and the signs and symptoms of asphyxia. | Protect the workers from landfill gas hazards | MTR | XRL tunnels within the NTML Consultation Zone | Operation phase | To be implemented as per construction programme |

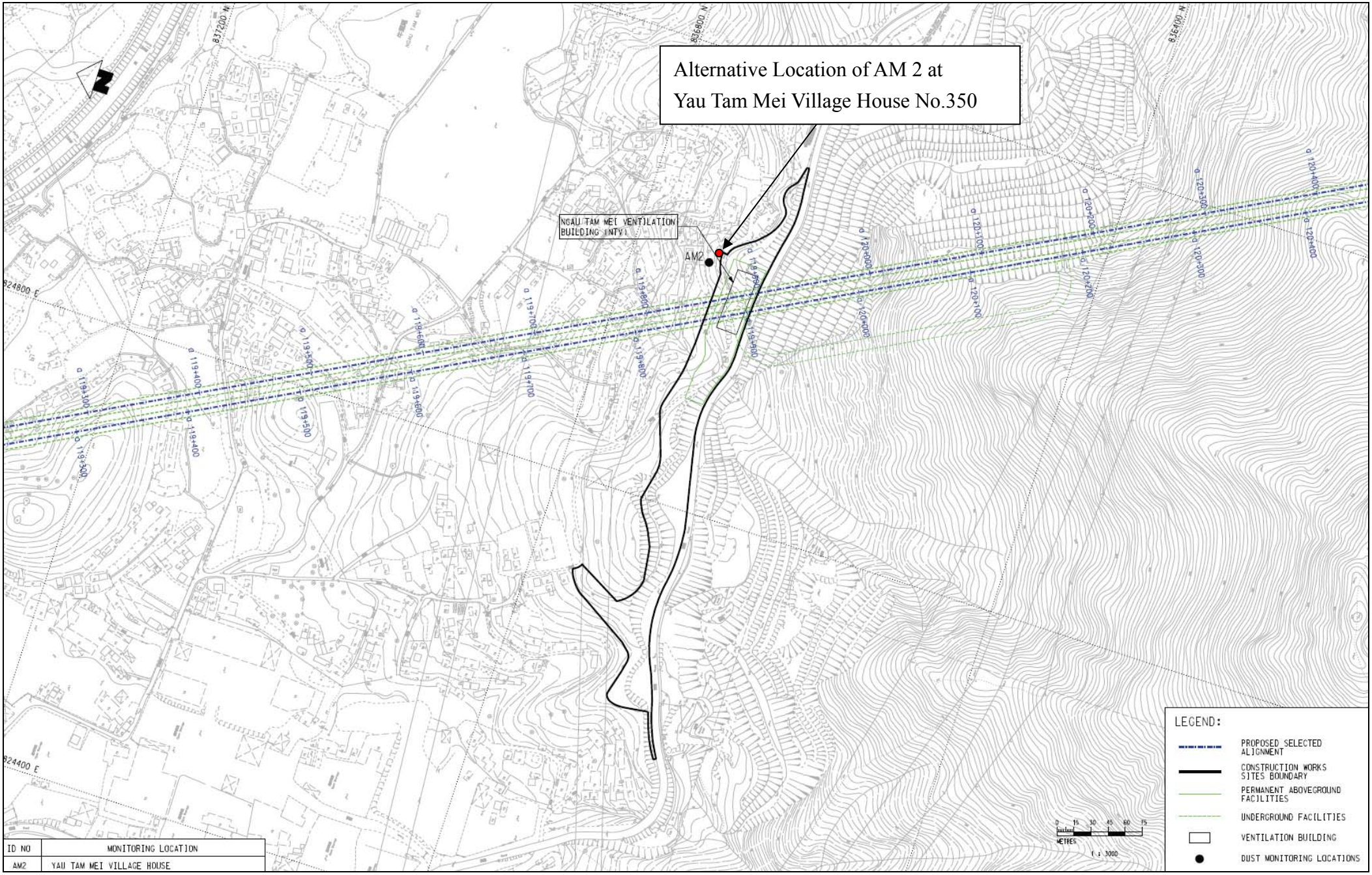
| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
|---|---|---|---|---|---|---|
| S14.76 | - Smoking within the tunnels should be prohibited at all times. | Protect the operation of the XRL and workers from landfill gas hazards | MTR | XRL tunnels within the NTML Consultation Zone | Operation phase | To be implemented as per construction programme |
| S14.76 | - An assumed presence of landfill gas should be adopted at all times by maintenance workers and a strictly regulated "work permit procedure" involving training, ventilation, gas monitoring (as detailed in the Construction recommendations section), safety tracking and communication with maintenance staff, enforcement of the no smoking order. | Protect the workers from landfill gas hazards | MTR | XRL tunnels within the NTML Consultation Zone | Operation phase | To be implemented as per construction programme |
| S14.82 & S14.83 | - The monitoring requirement during the operational phase should be discussed with EPD before the commencement of operation. Weekly monitoring of methane, carbon dioxide and oxygen in the form of a walkover survey at 20m intervals for section of tunnels under NTML and 50m interval within the NTML Consultation Zone is tentatively proposed. The survey should be conducted under non-ventilated condition and before the first train operates and | Confirm no landfill gas ingress into the XRL tunnels | MTR | XRL tunnels within the NTML Consultation Zone | Operation phase | To be implemented as per construction programme |

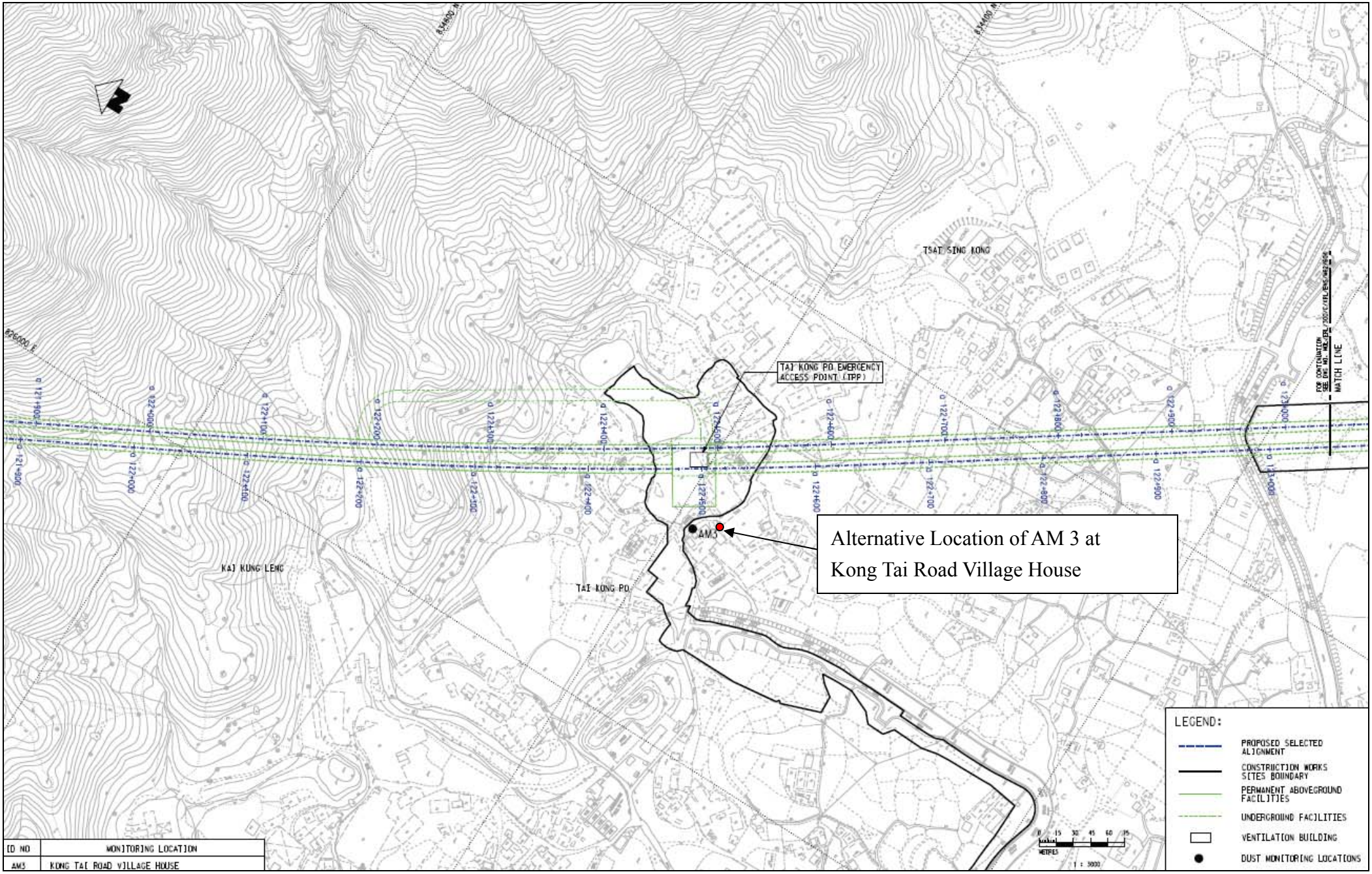
| EIA Ref. | Recommended Mitigation Measures | Objectives of the Recommended Measures & Main Concern to Address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
|---|---|---|---|---|---|---|
| | start-up of ventilation, if applicable. A summary of the monitoring results should be submitted to EPD for record at the end of the monitoring period. | | | | | |
| S14.84 | - An annual walkover survey in the tunnels within the Consultation Zone of the NTML should be conducted to test for the presence of flammable gas at joints and cracks, if identified. Rectifications, such as sealing of cracks and inspection of tunnel seals, should be carried out for any signs of presence of flammable gas. The survey should be conducted under non-ventilated condition and before the first train operates and start-up of ventilation, if applicable. | Confirm no landfill gas ingress into the XRL tunnels | MTR | XRL tunnels within the NTML Consultation Zone | Operation phase | To be implemented as per construction programme |

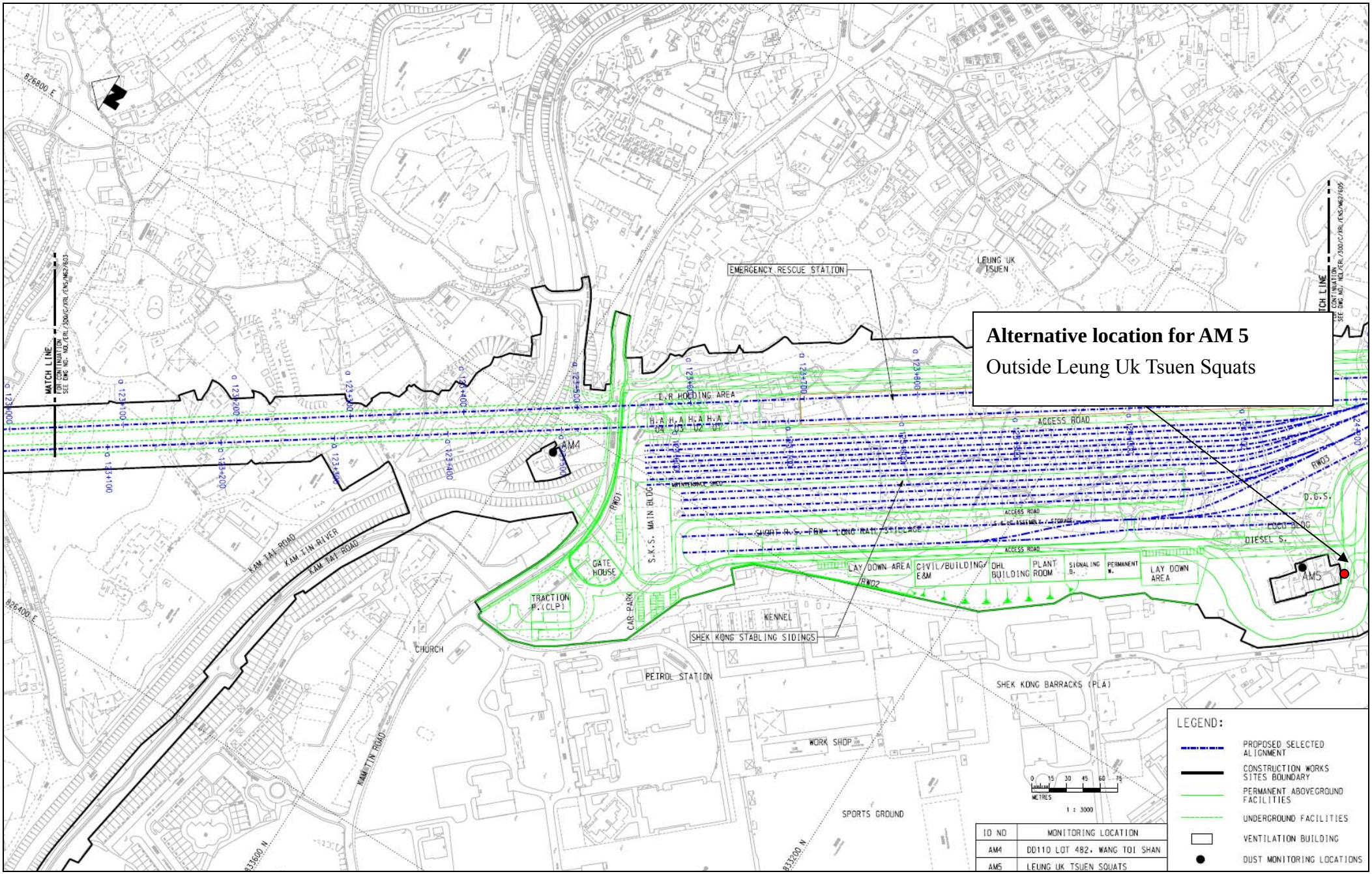
# Appendix D

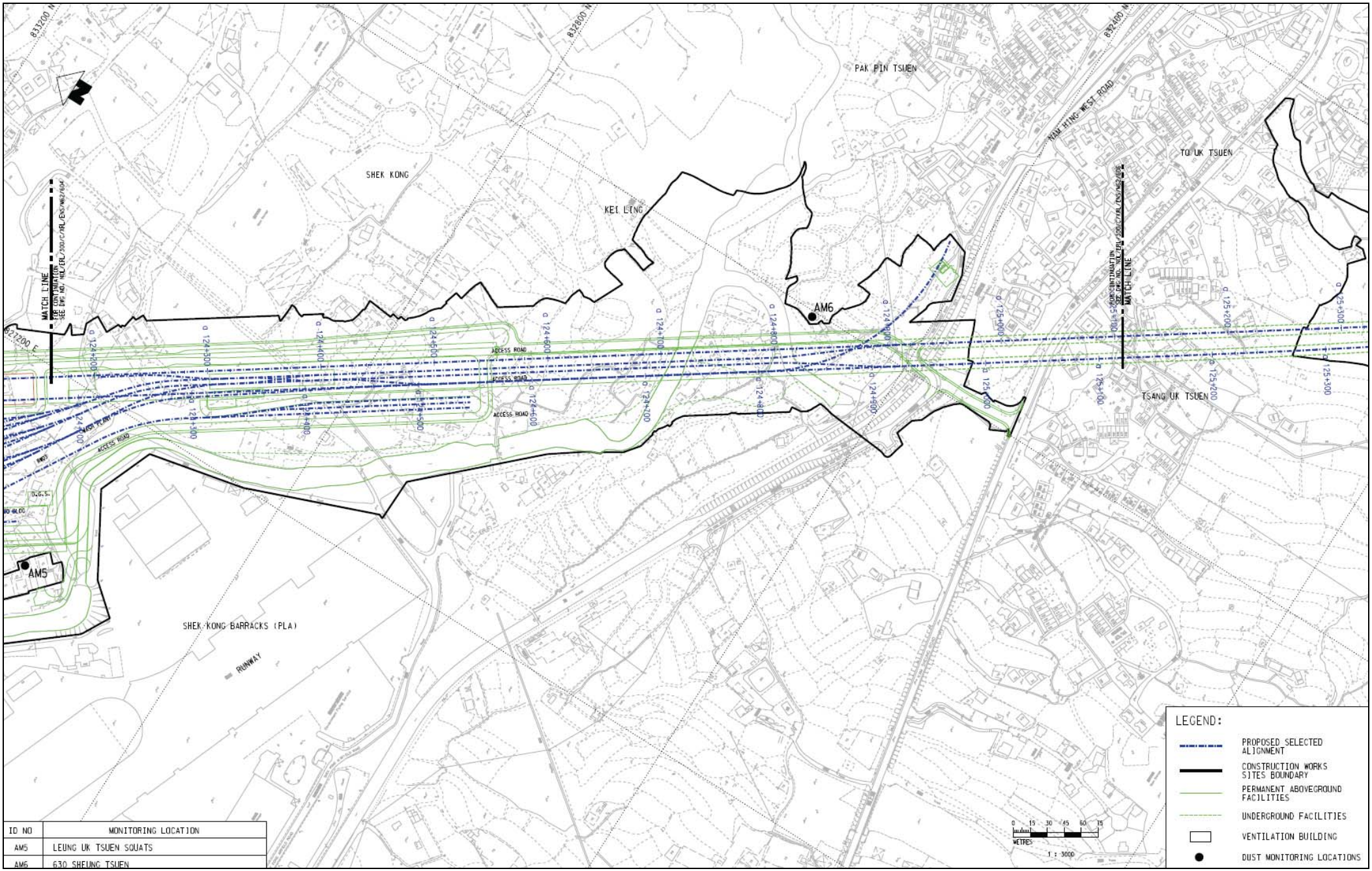
# Monitoring Locations


Outside No. 205Mai Po San Tsuen
Alternative monitoring location for AM 1
MAI PO VENTILATION BUILDING (MPV)
MAI PO
CASTLE PEAK ROAD - MAI PO
SAN TIN HIGHWAY
AM1
MO SHANG WAI PROPERTY DEVELOPMENT
ROYAL PALMS
LEGEND:
PROPOSED SELECTED ALIGNMENT
CONSTRUCTION WORKS SITES BOUNDARY
PERMANENT ABOVEGROUND FACILITIES
UNDERGROUND FACILITIES
VENTILATION BUILDING
DUST MONITORING LOCATIONS
ID NO
MONITORING LOCATION
AM1
NOISE S. PHASE A. ROYAL PALMS

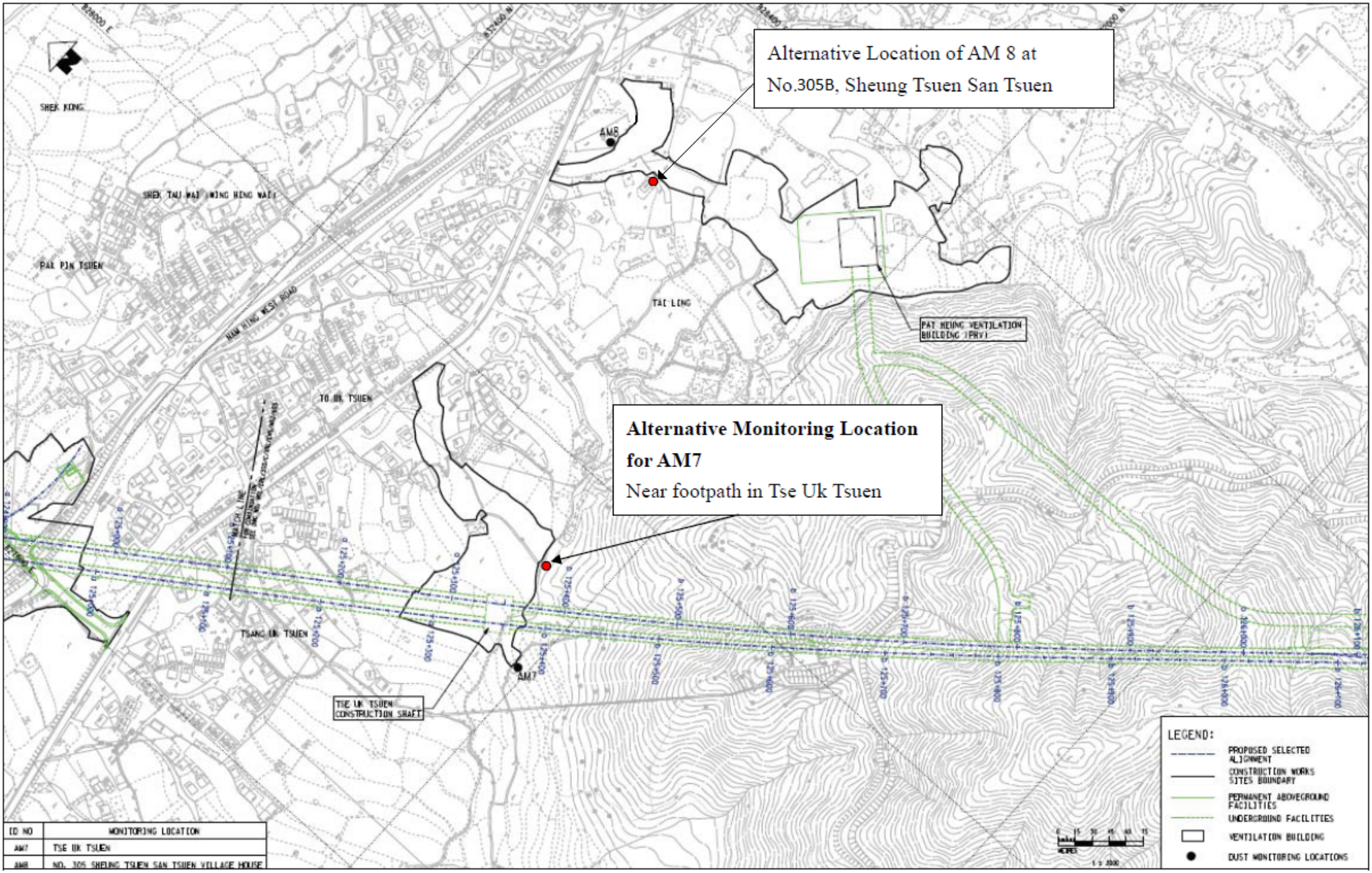

Alternative Location of AM 2 at
Yau Tam Mei Village House No.350
NGAU TAM MEI VENTILATION BUILDING (NTV)
AM2
837200 N
836800 N
836400 N
824800 E
824400 E
LEGEND:
PROPOSED SELECTED ALIGNMENT
CONSTRUCTION WORKS SITES BOUNDARY
PERMANENT ABOVEGROUND FACILITIES
UNDERGROUND FACILITIES
VENTILATION BUILDING
DUST MONITORING LOCATIONS
METRES
1 : 3000
ID NO
MONITORING LOCATION
AM2
YAU TAM MEI VILLAGE HOUSE

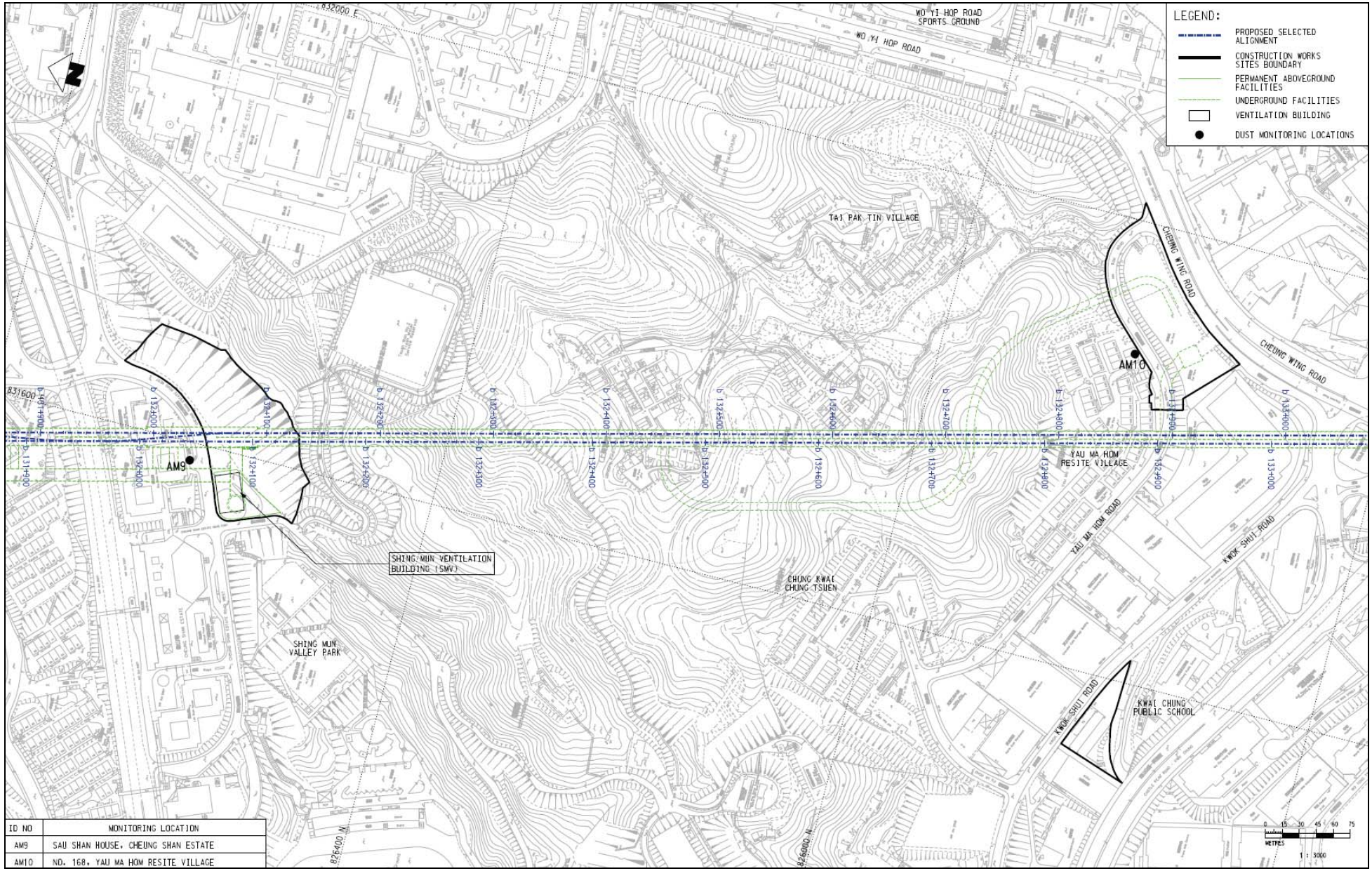

TSAT SING KONG
TAI KONG PO EMERGENCY ACCESS POINT (TPP)
AM3
Alternative Location of AM 3 at Kong Tai Road Village House
KAI KONG LENG
TAI KONG PO
MATCH LINE
LEGEND:
PROPOSED SELECTED ALIGNMENT
CONSTRUCTION WORKS SITES BOUNDARY
PERMANENT ABOVEGROUND FACILITIES
UNDERGROUND FACILITIES
VENTILATION BUILDING
DUST MONITORING LOCATIONS
ID NO
MONITORING LOCATION
AM3
KONG TAI ROAD VILLAGE HOUSE


Alternative location for AM 5
Outside Leung Uk Tsuen Squats
EMERGENCY RESCUE STATION
LEUNG UK TSUEN
MATCH LINE
FOR CONTINUATION SEE DWG NO. NOL/ERL/300/C/KRL/ENS/M&E/603
MATCH LINE
FOR CONTINUATION SEE DWG NO. NOL/ERL/300/C/KRL/ENS/M&E/695
T.R HOEDING AREA
ACCESS ROAD
AM4
AM5
RW01
RW02
RW03
S.K.S. MAIN BLDG.
MAINTENANCE SHED
SHORT R.S.
LONG RAIL STORAGE
D.G.S.
DIESEL S.
LAY DOWN AREA
CIVIL/BUILDING E&M
OHL BUILDING
PLANT ROOM
SIGNALING B.
PERMANENT W.
LAY DOWN AREA
GATE HOUSE
TRACTION P.(CLP)
CAR PARK
KENNEL
SHEK KONG STABLING SIDINGS
CHURCH
PETROL STATION
SHEK KONG BARRACKS (PLA)
WORK SHOP
SPORTS GROUND
KAM TAI ROAD
KAM TIN RIVER
KAM TAI ROAD
KAM TIN ROAD
826800 E
826400 E
833600 N
833200 N
METRES
1 : 3000
LEGEND:
PROPOSED SELECTED ALIGNMENT
CONSTRUCTION WORKS SITES BOUNDARY
PERMANENT ABOVEGROUND FACILITIES
UNDERGROUND FACILITIES
VENTILATION BUILDING
DUST MONITORING LOCATIONS
ID NO
MONITORING LOCATION
AM4
DD110 LOT 482, WANG TOI SHAN
AM5
LEUNG UK TSUEN SQUATS

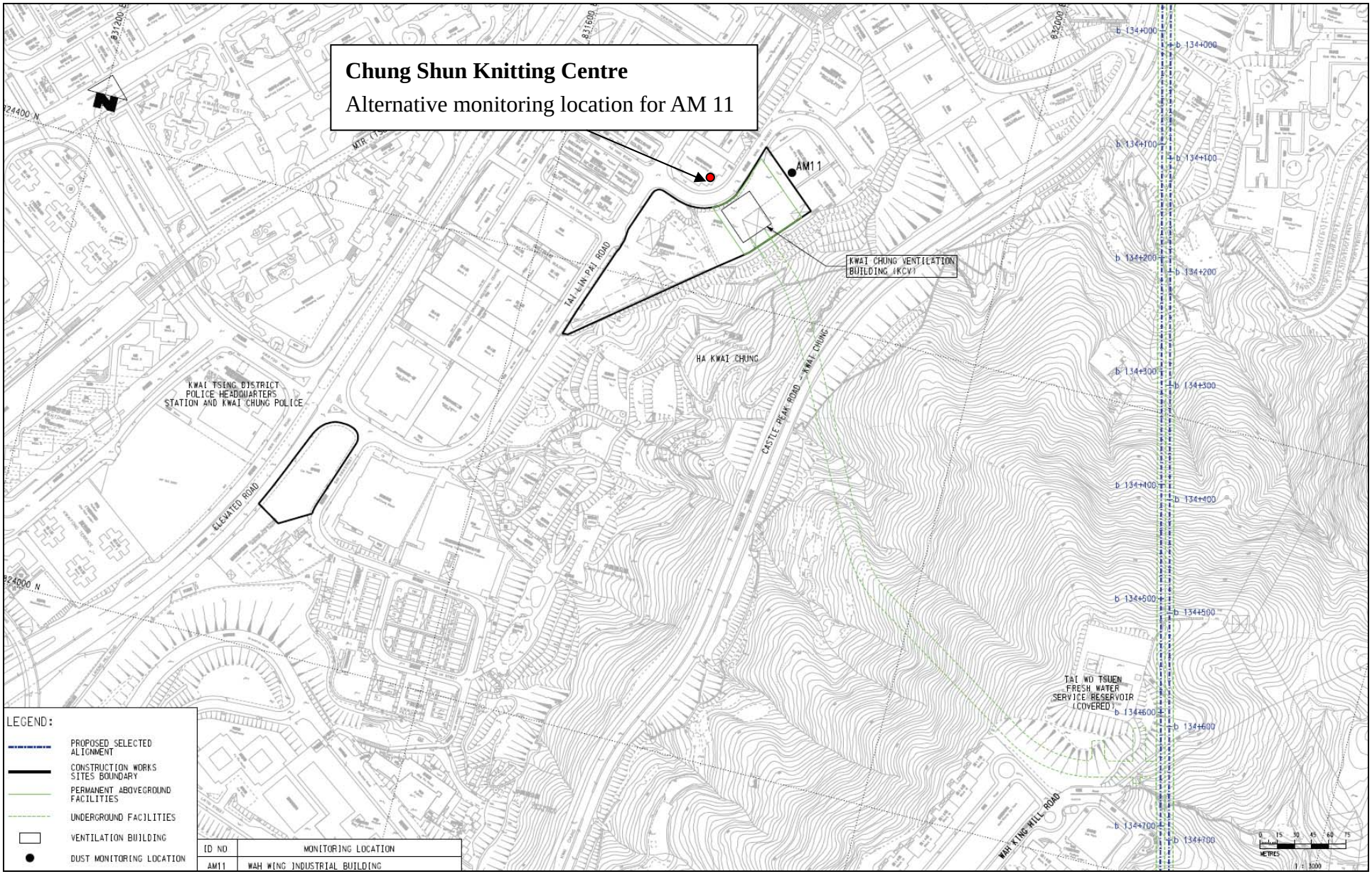


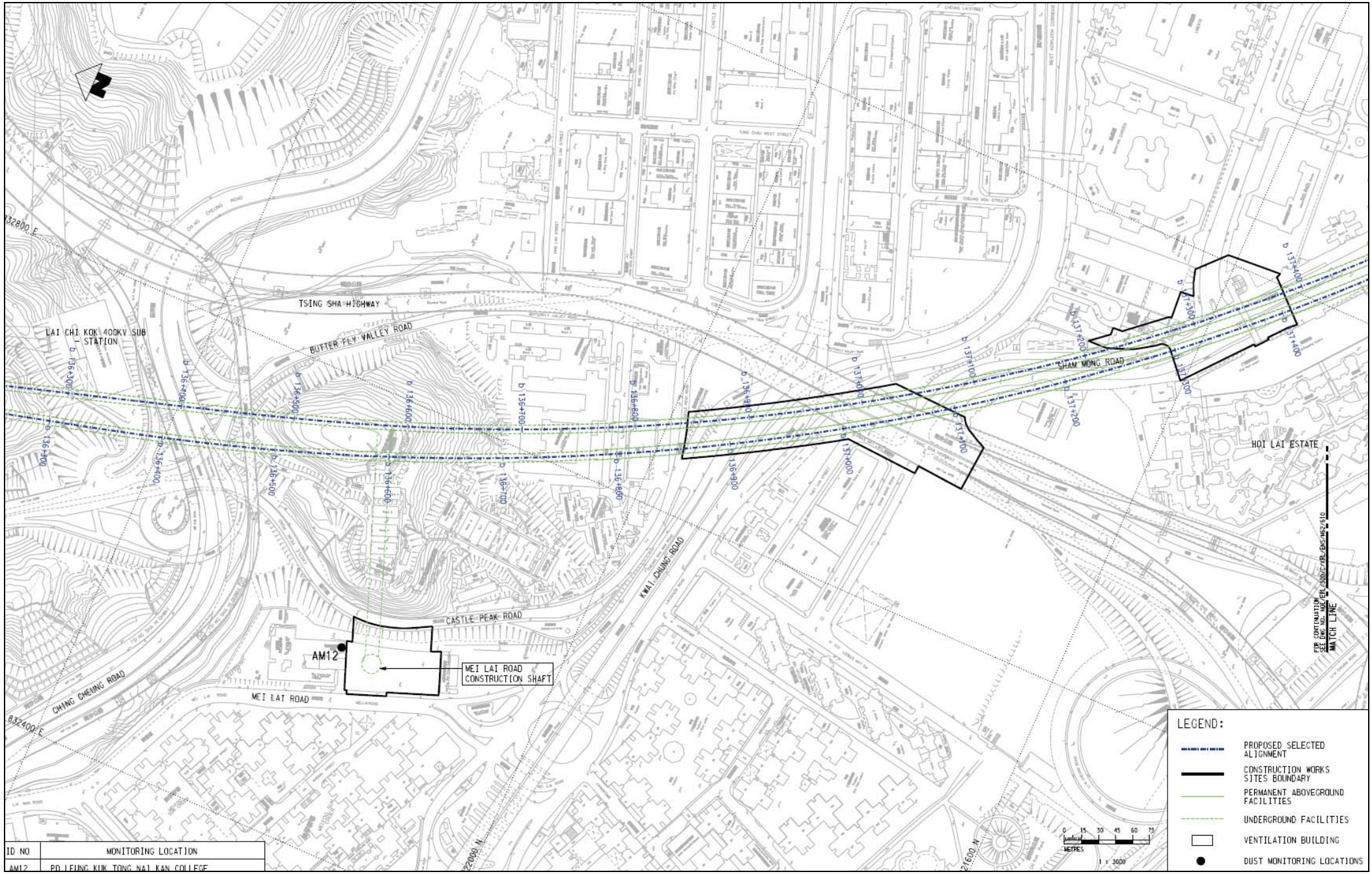

| ID NO | MONITORING LOCATION |
|---|---|
| AM5 | LEUNG UK TSUEN SQUATS |
| AM6 | 630 SHEUNG TSUEN |


Alternative Location of AM 8 at
No.305B, Sheung Tsuen San Tsuen
Alternative Monitoring Location
for AM7
Near footpath in Tse Uk Tsuen
AM8
AM7
SHEK KONG
SHEK TAU WAI
PAK PIN TSUEN
TAI LENG
PAT HEUNG VENTILATION BUILDING (PHV)
TO UK TSUEN
TSANG UK TSUEN
TSE UK TSUEN CONSTRUCTION SHAFT
LEGEND:
PROPOSED SELECTED ALIGNMENT
CONSTRUCTION WORKS SITES BOUNDARY
PERMANENT ABOVEGROUND FACILITIES
UNDERGROUND FACILITIES
VENTILATION BUILDING
DUST MONITORING LOCATIONS
ID NO
MONITORING LOCATION
AM7
TSE UK TSUEN
AM8
NO. 305 SHEUNG TSUEN SAN TSUEN VILLAGE HOUSE

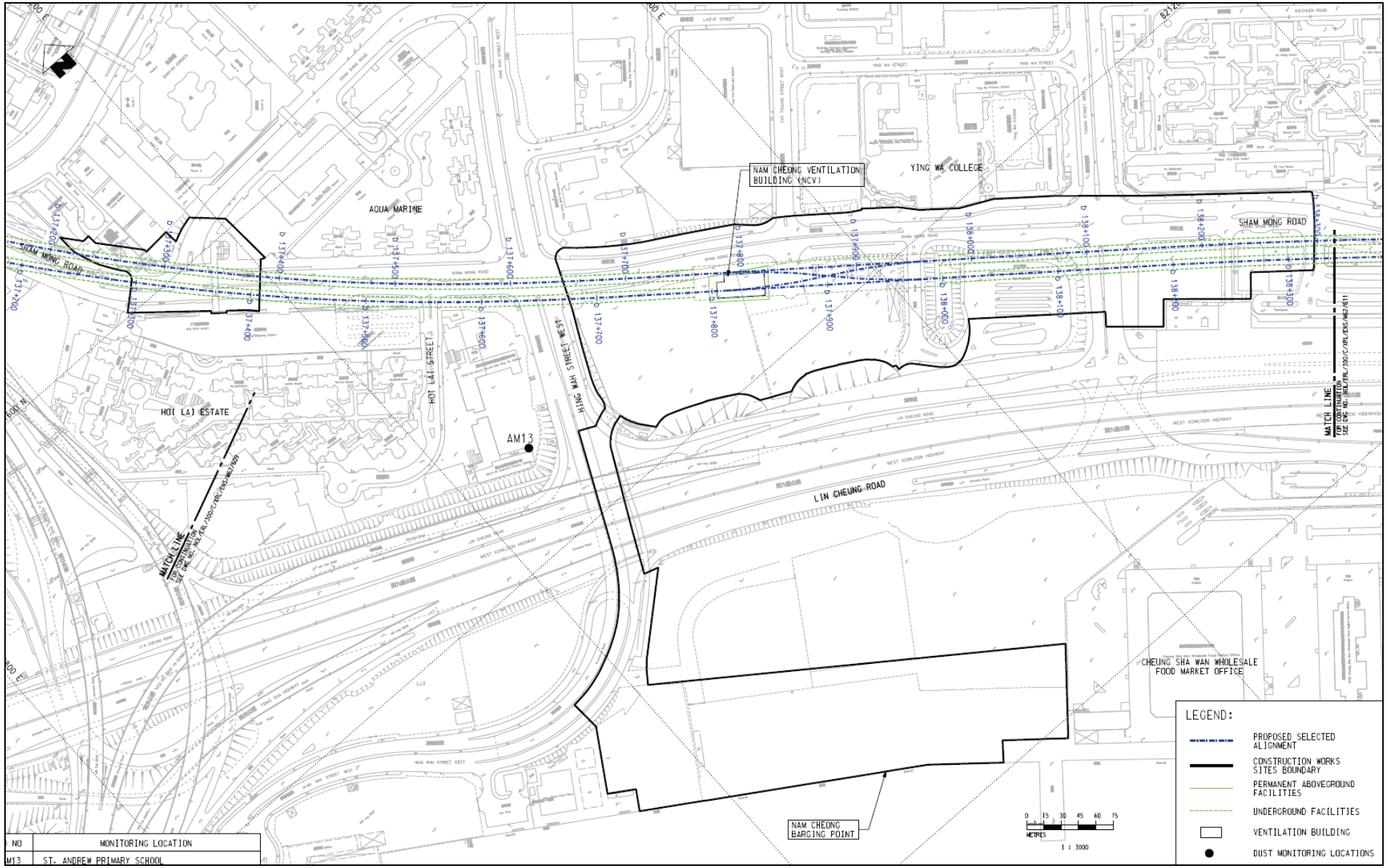



| ID NO | MONITORING LOCATION |
|---|---|
| AM9 | SAU SHAN HOUSE, CHEUNG SHAN ESTATE |
| AM10 | NO. 168, YAU MA HOM RESITE VILLAGE |

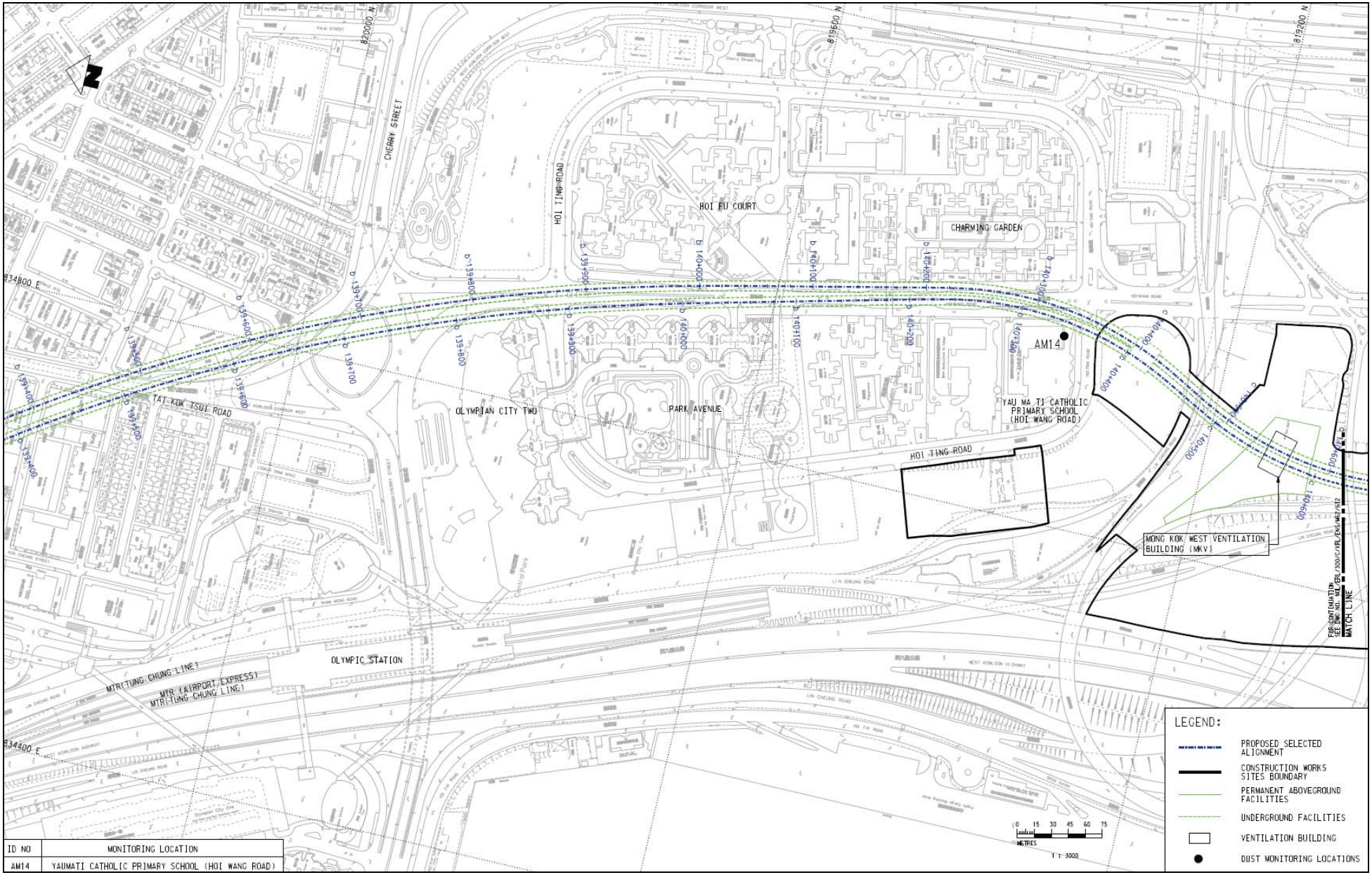

Chung Shun Knitting Centre
Alternative monitoring location for AM 11
AM11
KWAI CHUNG VENTILATION BUILDING (KCV)
TAI KLIN PAI ROAD
HA KWAI CHUNG
CASTLE PEAK ROAD - KWAI CHUNG
KWAI TSING DISTRICT POLICE HEADQUARTERS STATION AND KWAI CHUNG POLICE
ELEVATED ROAD
TAI WO TSUEN FRESH WATER SERVICE RESERVOIR (COVERED)
WAH KING HILL ROAD
LEGEND:
PROPOSED SELECTED ALIGNMENT
CONSTRUCTION WORKS SITES BOUNDARY
PERMANENT ABOVEGROUND FACILITIES
UNDERGROUND FACILITIES
VENTILATION BUILDING
DUST MONITORING LOCATION
ID NO
MONITORING LOCATION
AM11
WAH WING INDUSTRIAL BUILDING



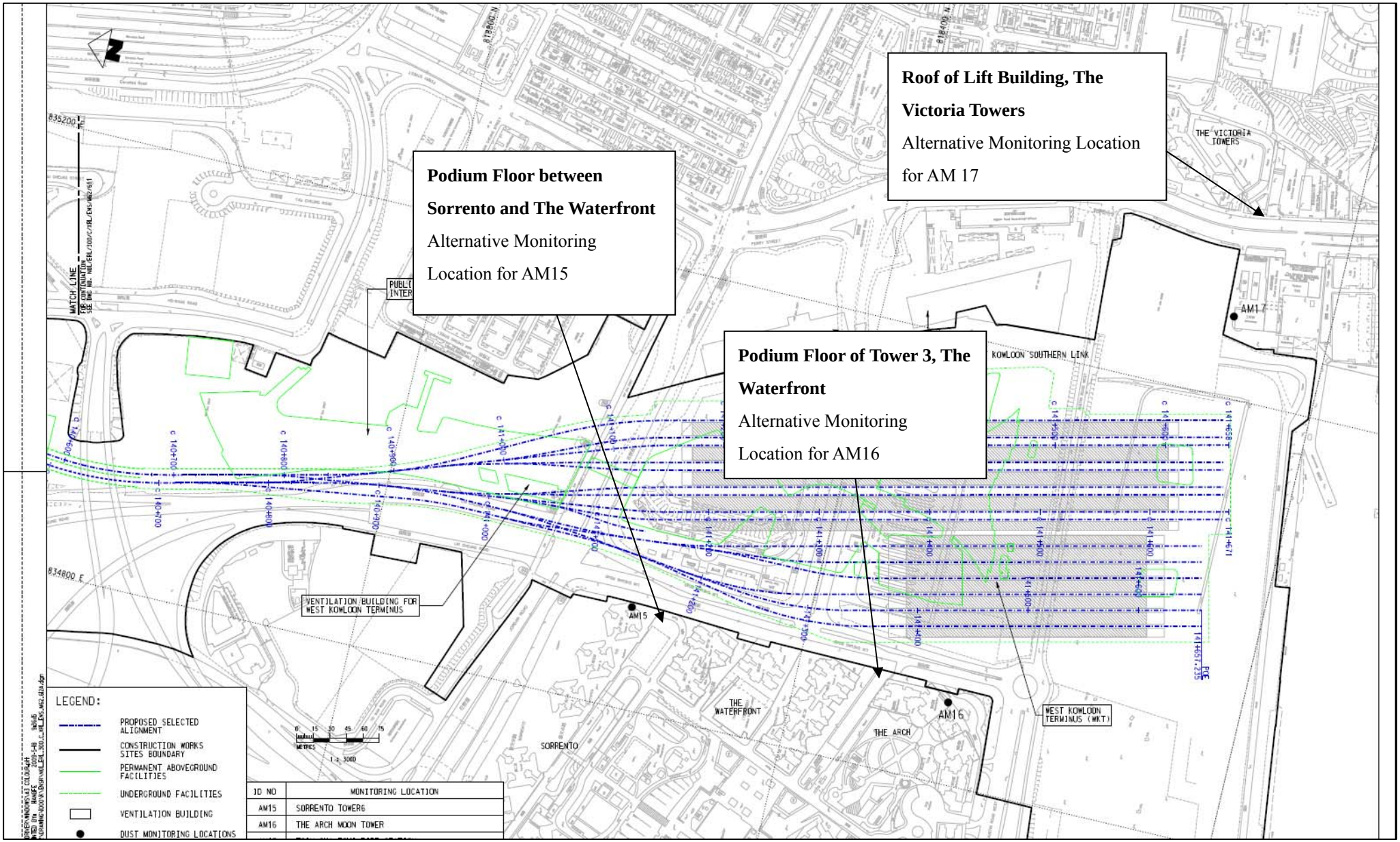

| ID NO | MONITORING LOCATION |
|---|---|
| AM12 | PO LEUNG KUK TONG NAI KAN COLLEGE |



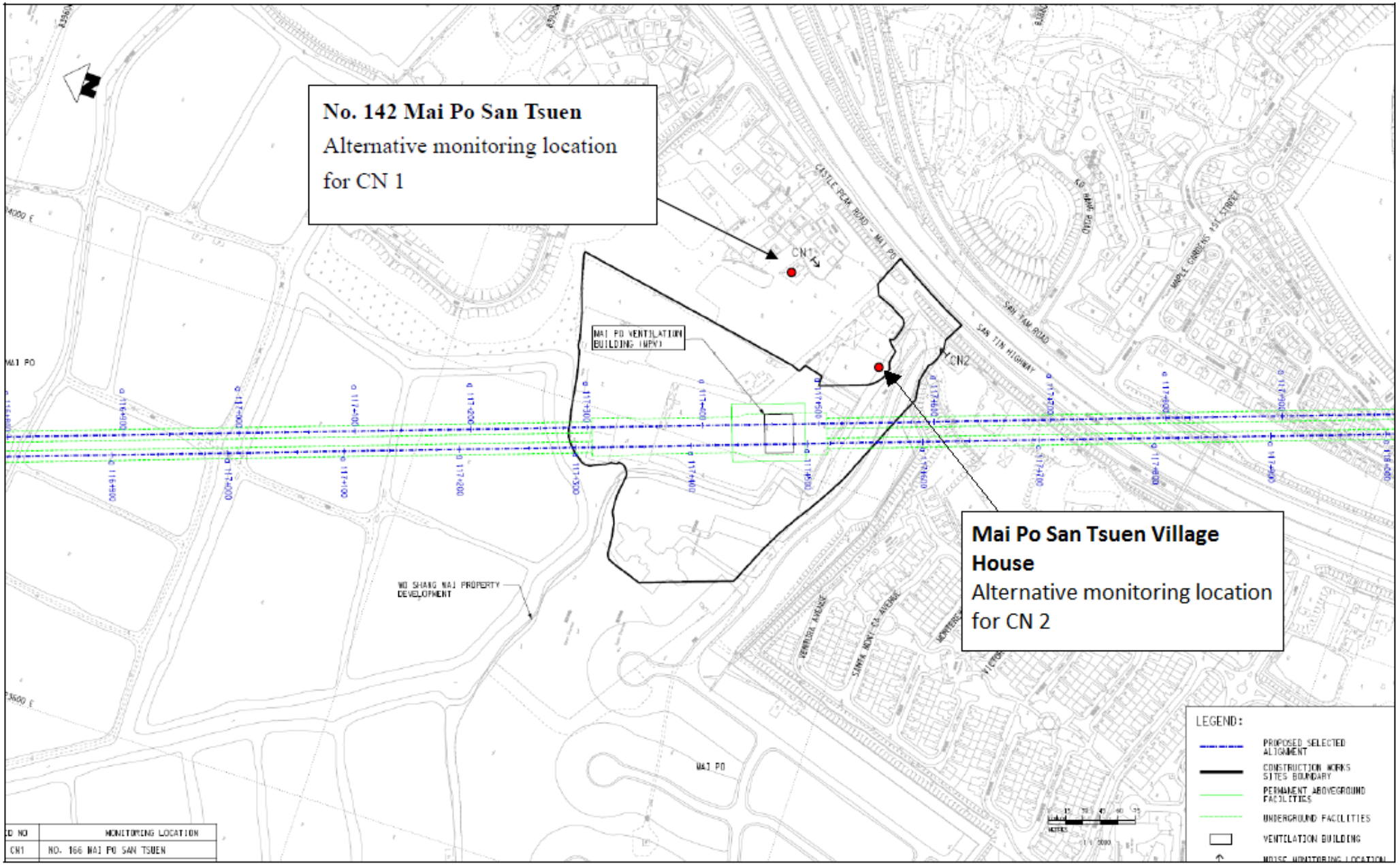

| NO | MONITORING LOCATION |
|---|---|
| M13 | ST. ANDREW PRIMARY SCHOOL |

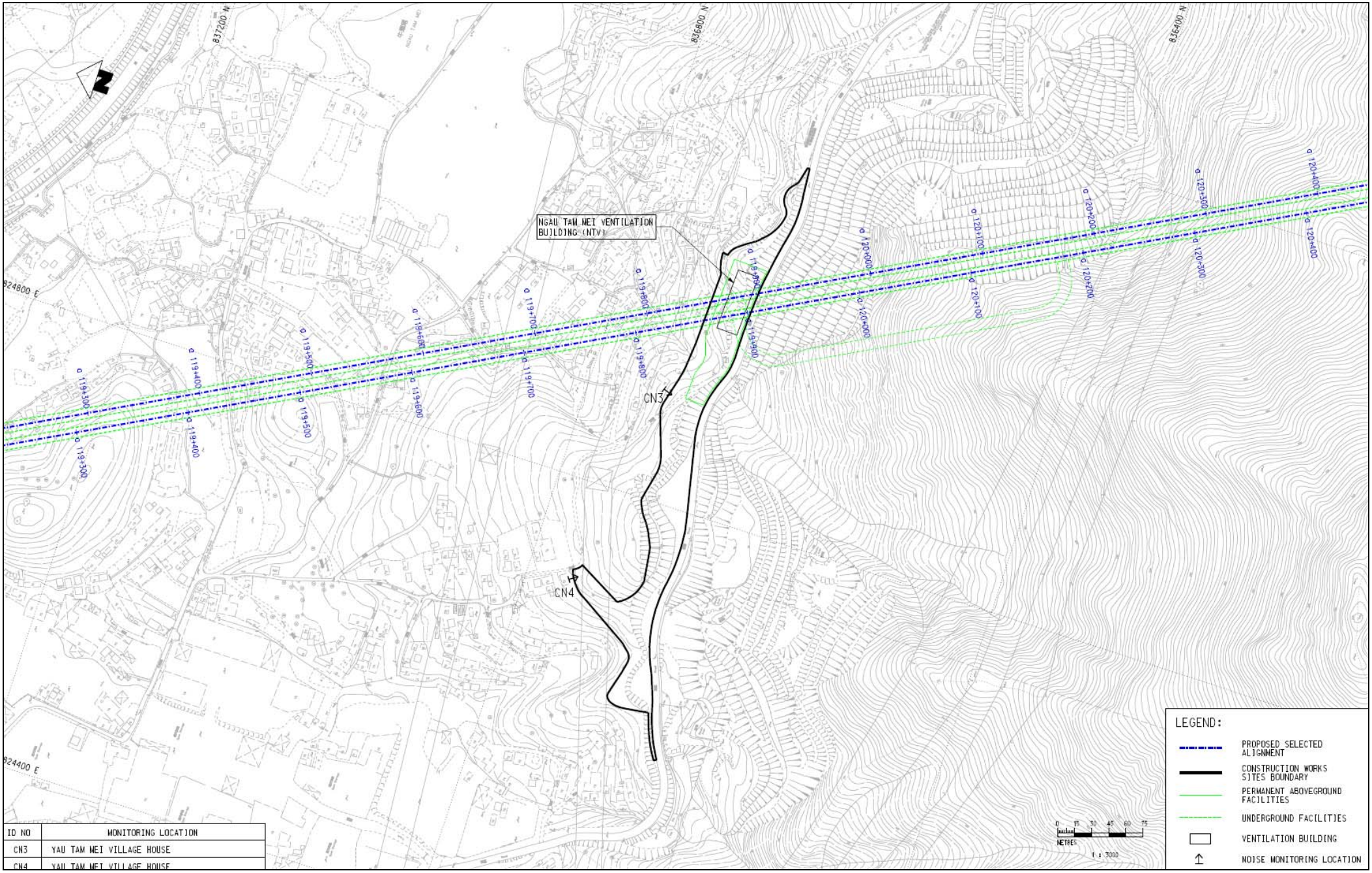



| ID NO | MONITORING LOCATION |
|---|---|
| AM14 | YAUMATI CATHOLIC PRIMARY SCHOOL (HOI WANG ROAD) |

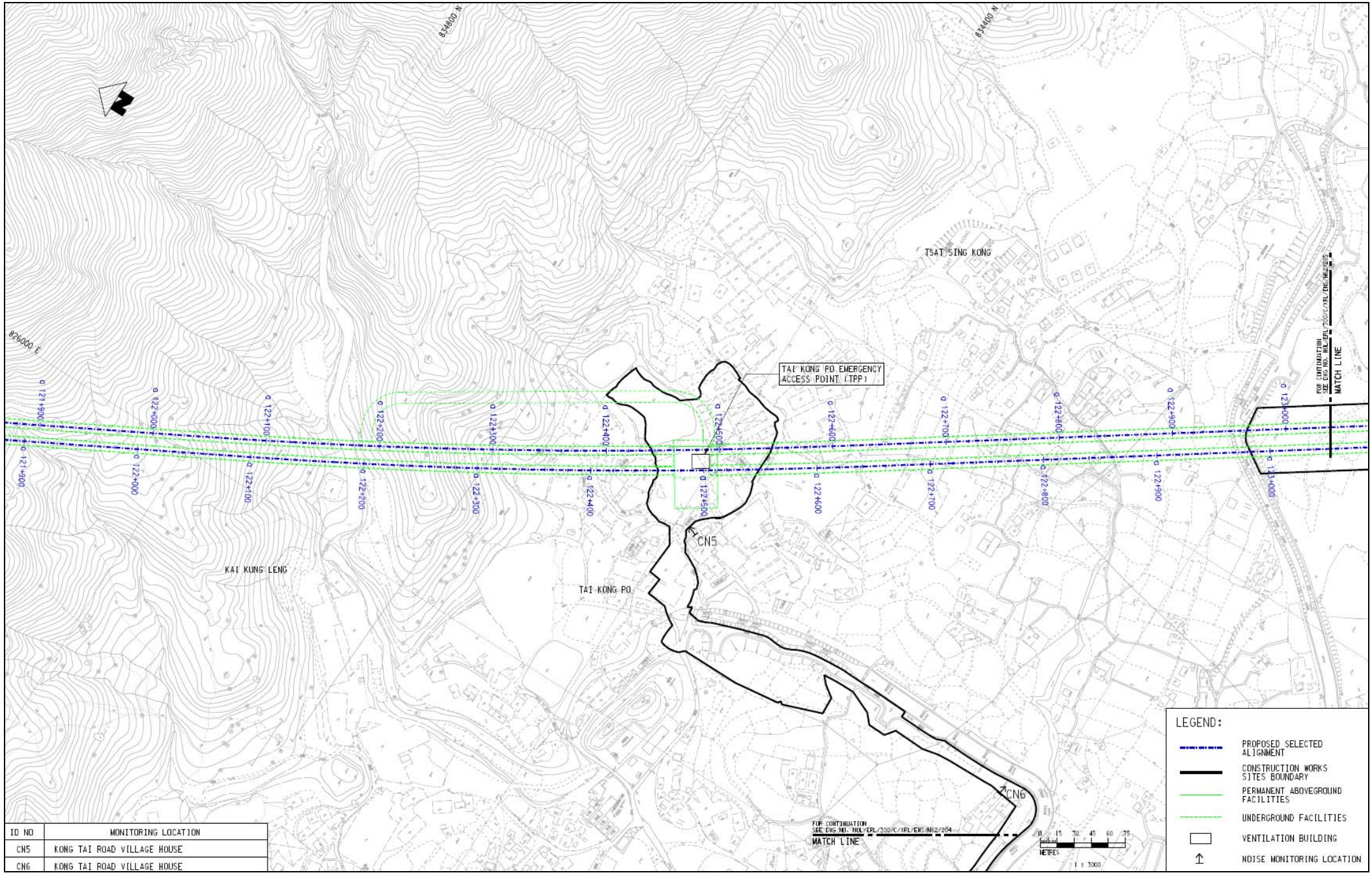



**Dust monitoring locations**


No. 142 Mai Po San Tsuen
Alternative monitoring location for CN 1
CN1
CN2
MAI PO VENTILATION BUILDING (MPV)
Mai Po San Tsuen Village House
Alternative monitoring location for CN 2
WO SHANG WAI PROPERTY DEVELOPMENT
MAI PO
CASTLE PEAK ROAD - MAI PO
SAN TIN HIGHWAY
SAN TAM ROAD
LEGEND:
PROPOSED SELECTED ALIGNMENT
CONSTRUCTION WORKS SITES BOUNDARY
PERMANENT ABOVEGROUND FACILITIES
UNDERGROUND FACILITIES
VENTILATION BUILDING
NO
MONITORING LOCATION
CN1
NO. 166 MAI PO SAN TSUEN




| ID NO | MONITORING LOCATION |
|---|---|
| CN3 | YAU TAM MEI VILLAGE HOUSE |
| CN4 | YAU TAM MEI VILLAGE HOUSE |




| ID NO | MONITORING LOCATION |
|---|---|
| CN5 | KONG TAI ROAD VILLAGE HOUSE |
| CN6 | KONG TAI ROAD VILLAGE HOUSE |

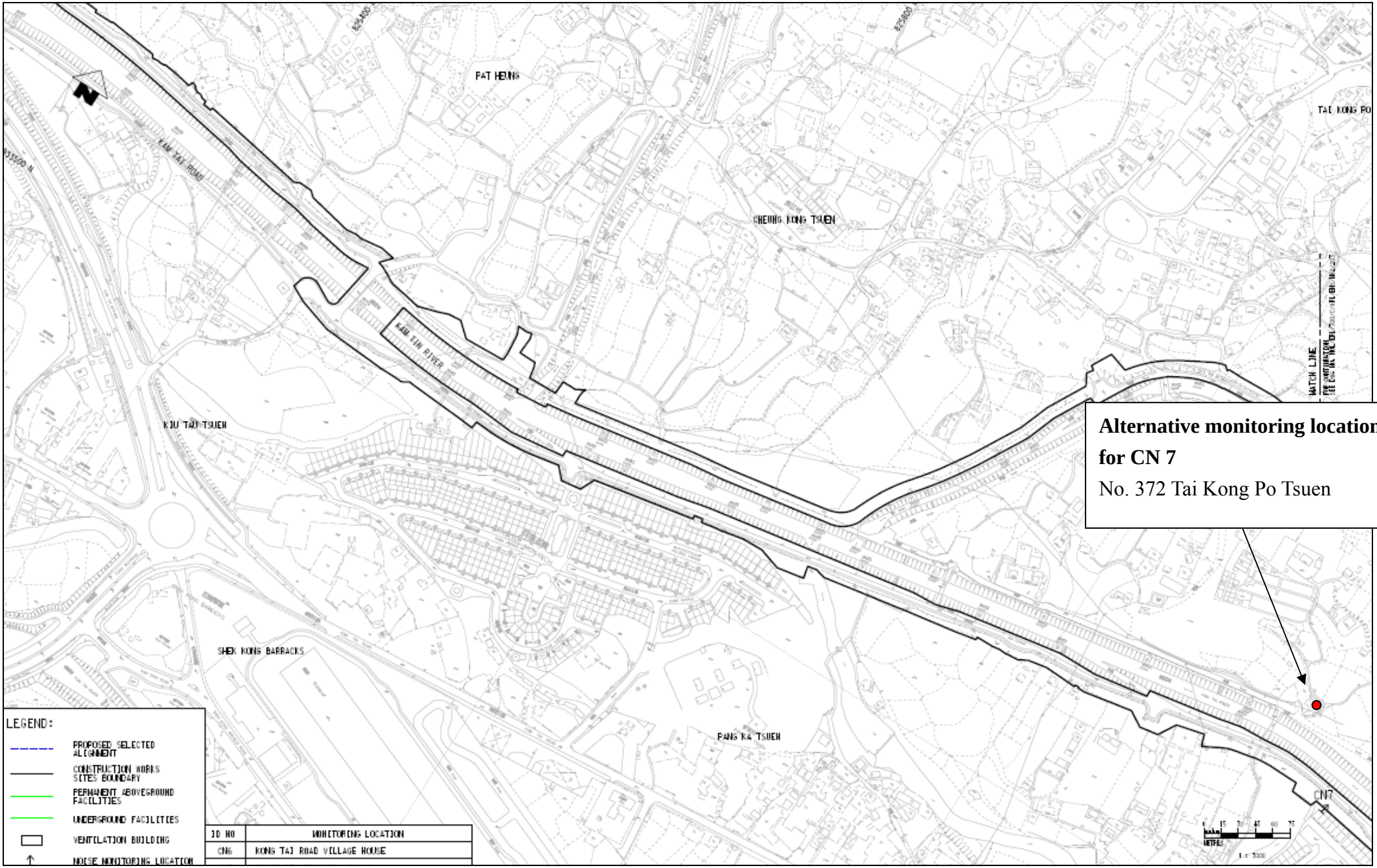
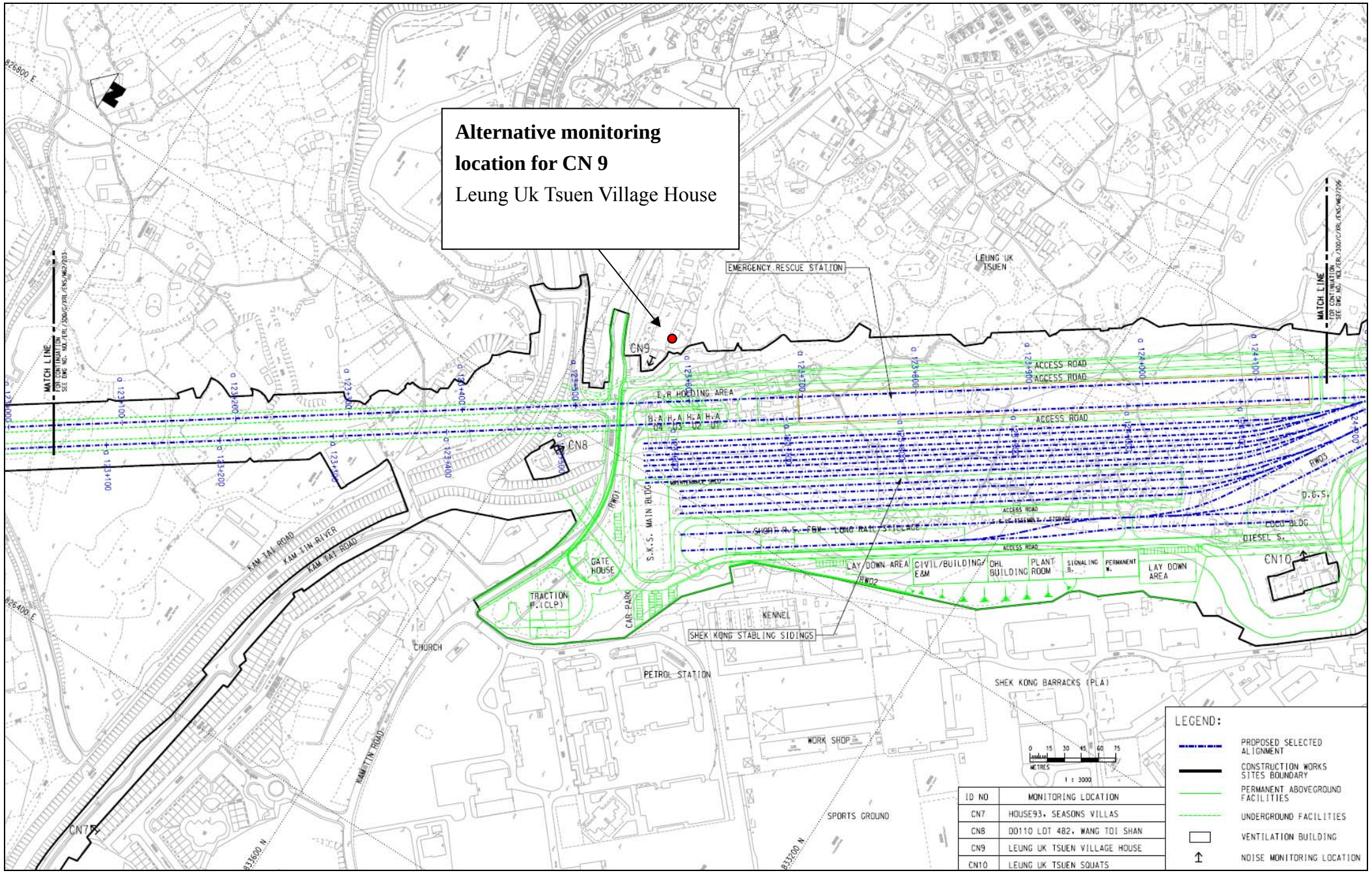
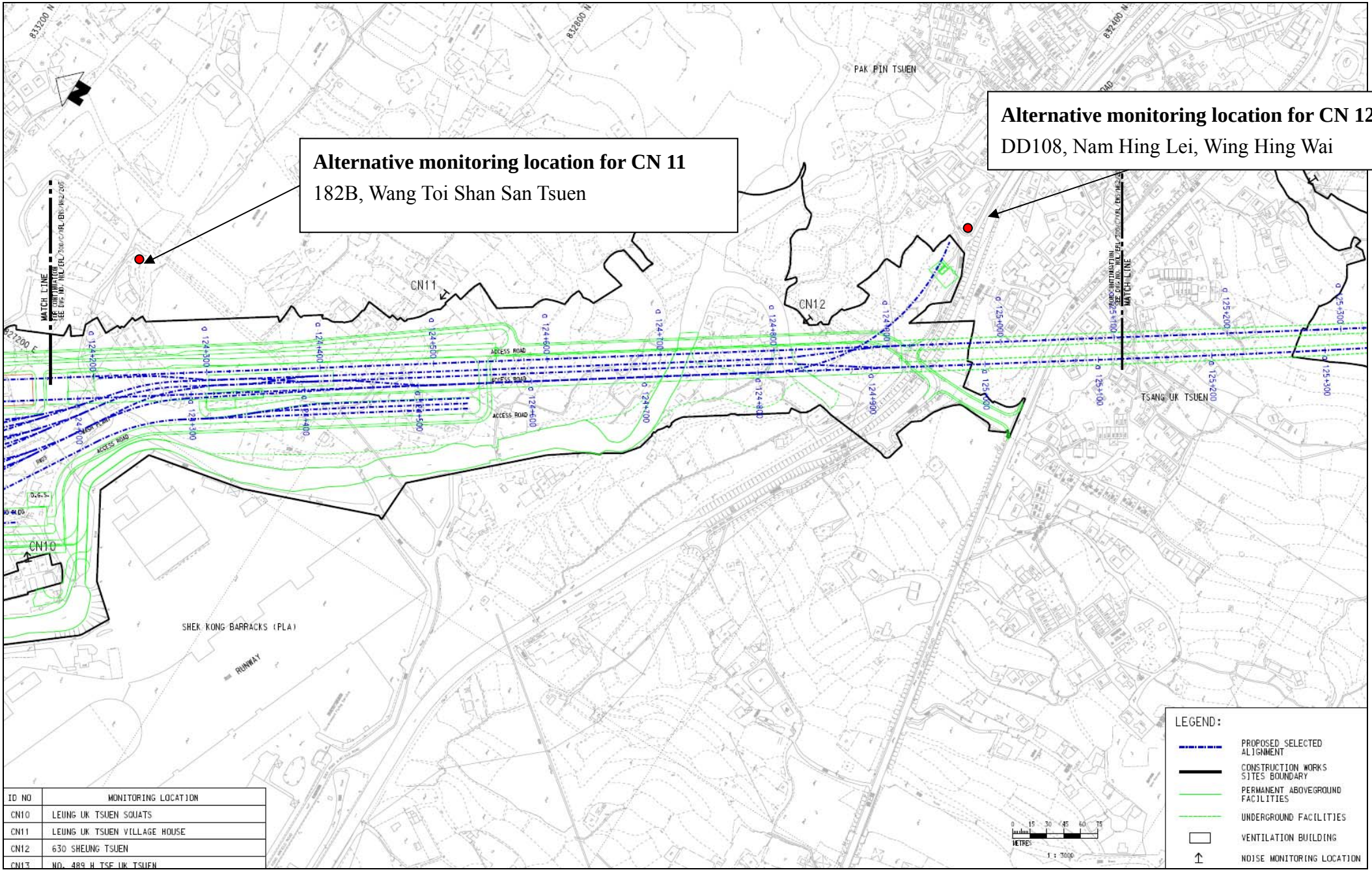
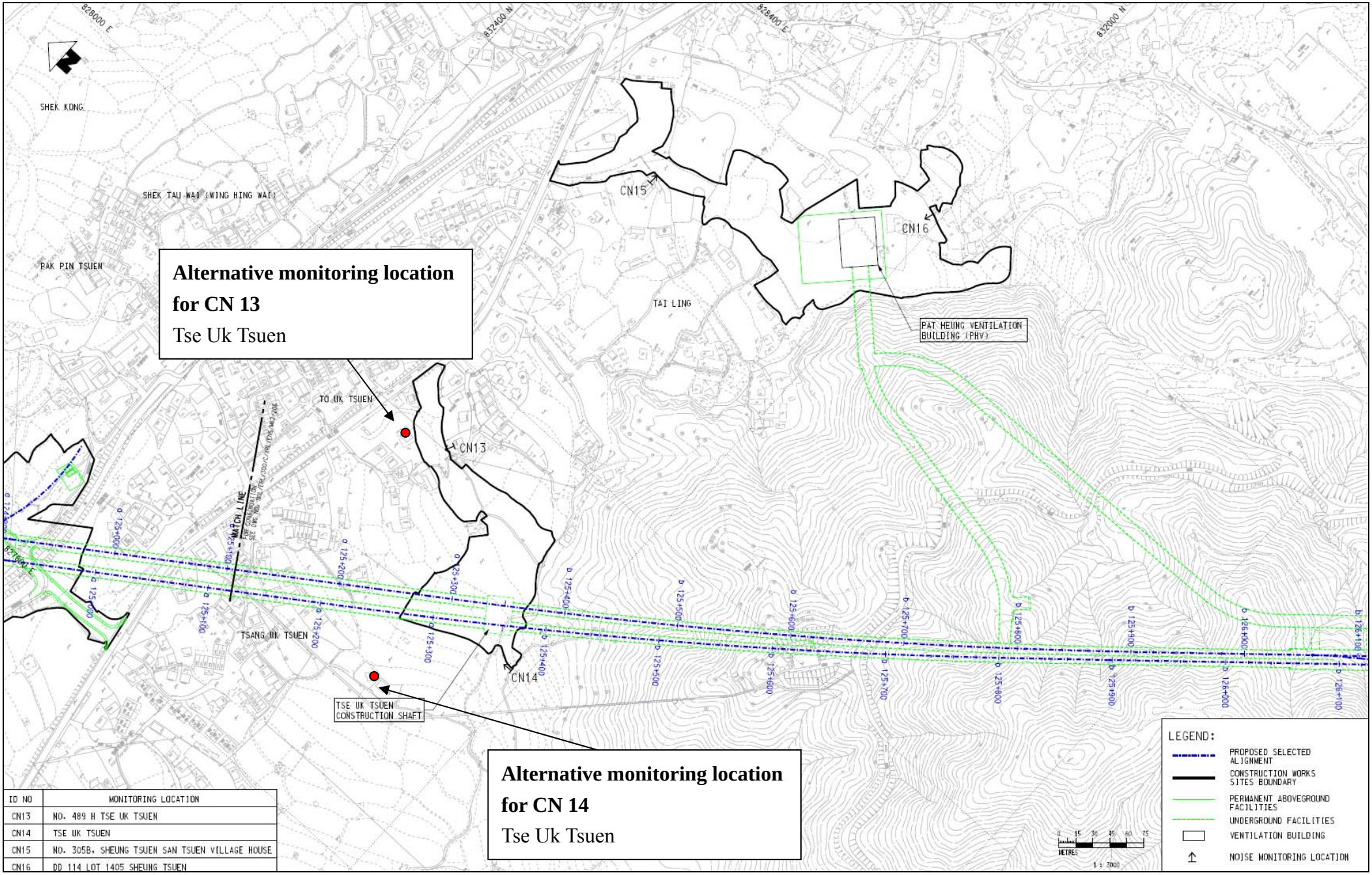



**Figure 2 – Noise Monitoring Locations**

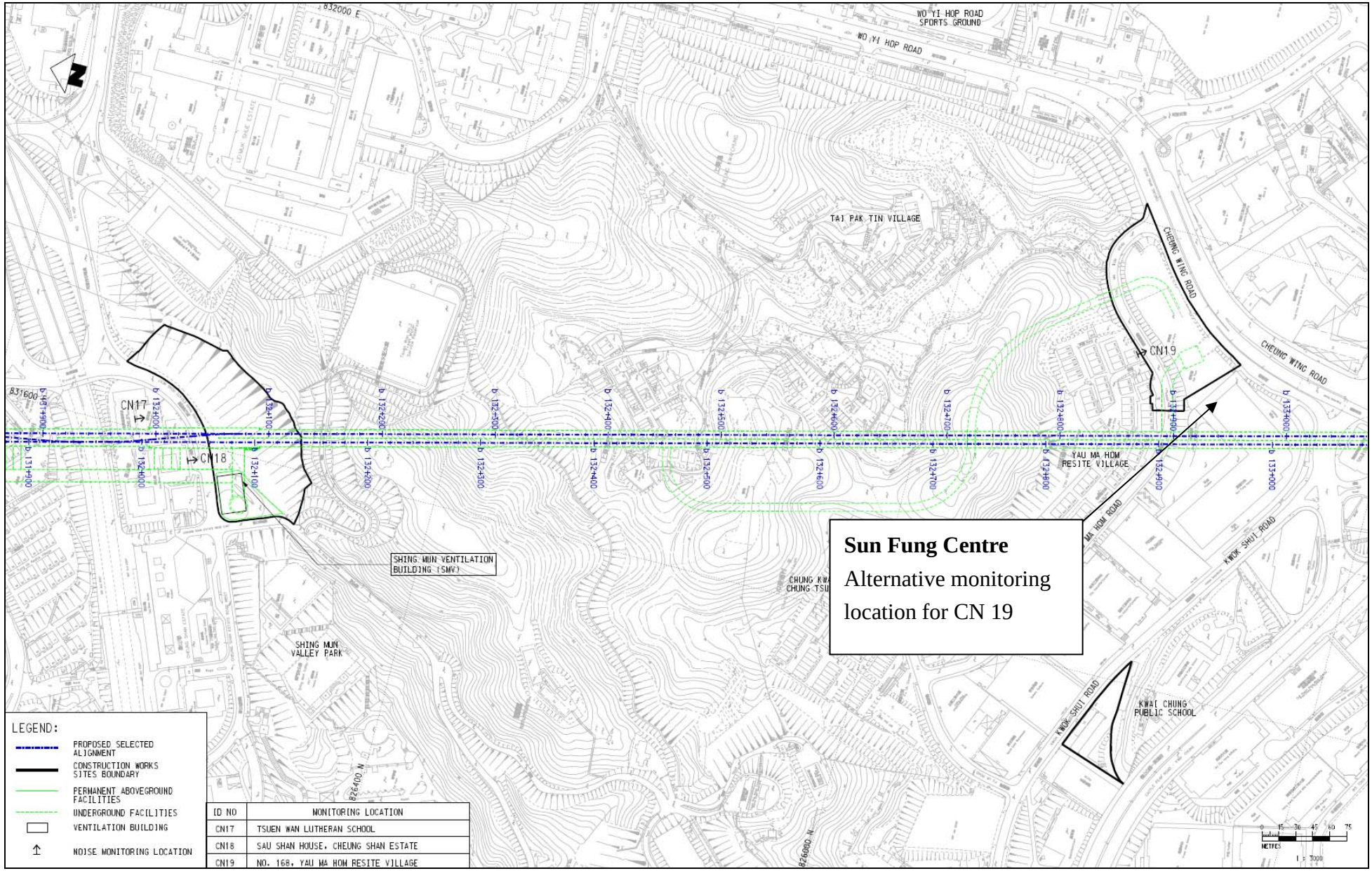

Alternative monitoring location for CN 9
Leung Uk Tsuen Village House
EMERGENCY RESCUE STATION
LEUNG UK TSUEN
CN9
CN8
CN10
CN7
E.R HOLDING AREA
ACCESS ROAD
MAINTENANCE SHED
S.K.S. MAIN BLDG
GATE HOUSE
TRACTION P.(CLP)
CAR PARK
KENNEL
SHEK KONG STABLING SIDINGS
LAY DOWN AREA
CIVIL/BUILDING E&M
OHL BUILDING
PLANT ROOM
SIGNALING B.
PERMANENT W.
LAY DOWN AREA
D.G.S.
COCO BLDG
DIESEL S.
KAM TAI ROAD
KAM TIN RIVER
KAM TIN ROAD
CHURCH
PETROL STATION
WORK SHOP
SHEK KONG BARRACKS (PLA)
SPORTS GROUND
MATCH LINE
826800 E
826400 E
833600 N
833200 N
LEGEND:
PROPOSED SELECTED ALIGNMENT
CONSTRUCTION WORKS SITES BOUNDARY
PERMANENT ABOVEGROUND FACILITIES
UNDERGROUND FACILITIES
VENTILATION BUILDING
NOISE MONITORING LOCATION
METRES
1 : 3000
ID NO | MONITORING LOCATION
CN7 | HOUSE93, SEASONS VILLAS
CN8 | DD110 LOT 482, WANG TOI SHAN
CN9 | LEUNG UK TSUEN VILLAGE HOUSE
CN10 | LEUNG UK TSUEN SQUATS




| ID NO | MONITORING LOCATION |
|---|---|
| CN10 | LEUNG UK TSUEN SQUATS |
| CN11 | LEUNG UK TSUEN VILLAGE HOUSE |
| CN12 | 630 SHEUNG TSUEN |
| CN13 | NO. 489 H TSE UK TSUEN |




| ID NO | MONITORING LOCATION |
|---|---|
| CN13 | NO. 489 H TSE UK TSUEN |
| CN14 | TSE UK TSUEN |
| CN15 | NO. 305B, SHEUNG TSUEN SAN TSUEN VILLAGE HOUSE |
| CN16 | DD 114 LOT 1405 SHEUNG TSUEN |


832000 E
WO YI HOP ROAD SPORTS GROUND
WO YI HOP ROAD
TAI PAK TIN VILLAGE
CHEUNG WING ROAD
CHEUNG WING ROAD
CN19
CN17
CN18
831600
SHING MUN VENTILATION BUILDING (SMV)
SHING MUN VALLEY PARK
YAU MA HOM RESITE VILLAGE
MA HOM ROAD
KWOK SHUI ROAD
KWOK SHUI ROAD
KWAI CHUNG PUBLIC SCHOOL
826400 N
826000 N
METRES
1 : 7000
Sun Fung Centre
Alternative monitoring location for CN 19
LEGEND:
PROPOSED SELECTED ALIGNMENT
CONSTRUCTION WORKS SITES BOUNDARY
PERMANENT ABOVEGROUND FACILITIES
UNDERGROUND FACILITIES
VENTILATION BUILDING
NOISE MONITORING LOCATION
ID NO | MONITORING LOCATION
CN17 | TSUEN WAN LUTHERAN SCHOOL
CN18 | SAU SHAN HOUSE, CHEUNG SHAN ESTATE
CN19 | NO. 168, YAU MA HOM RESITE VILLAGE

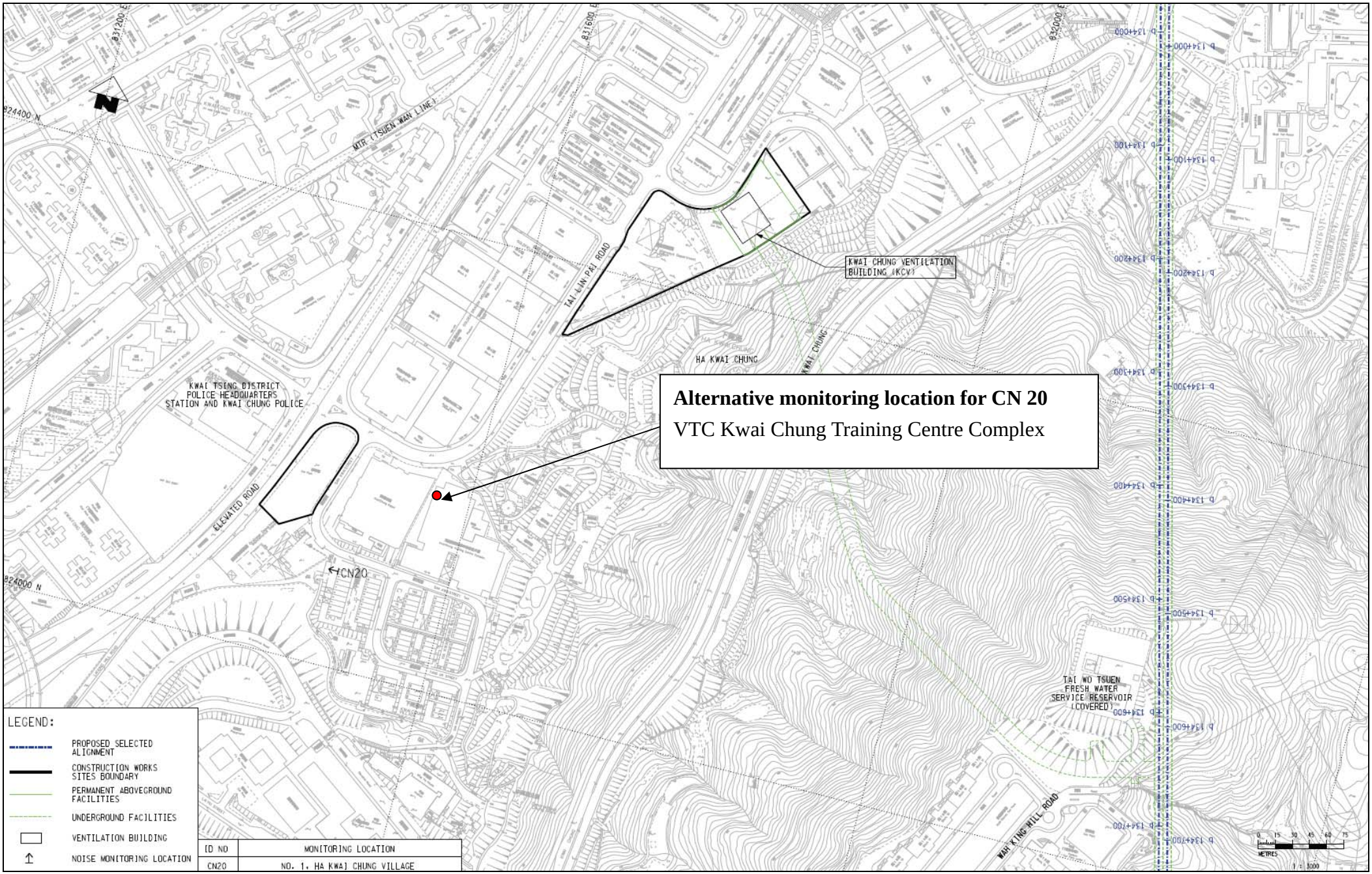
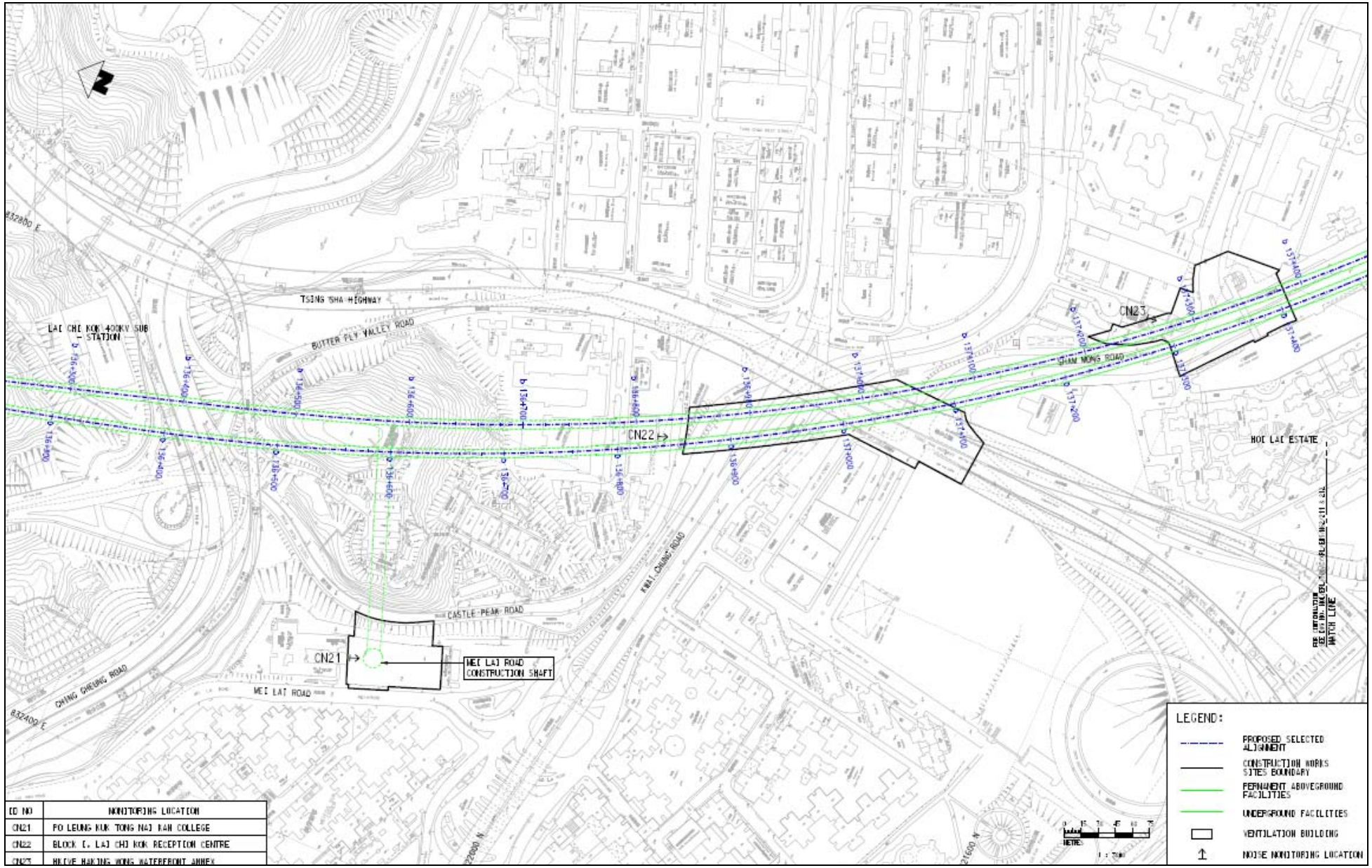
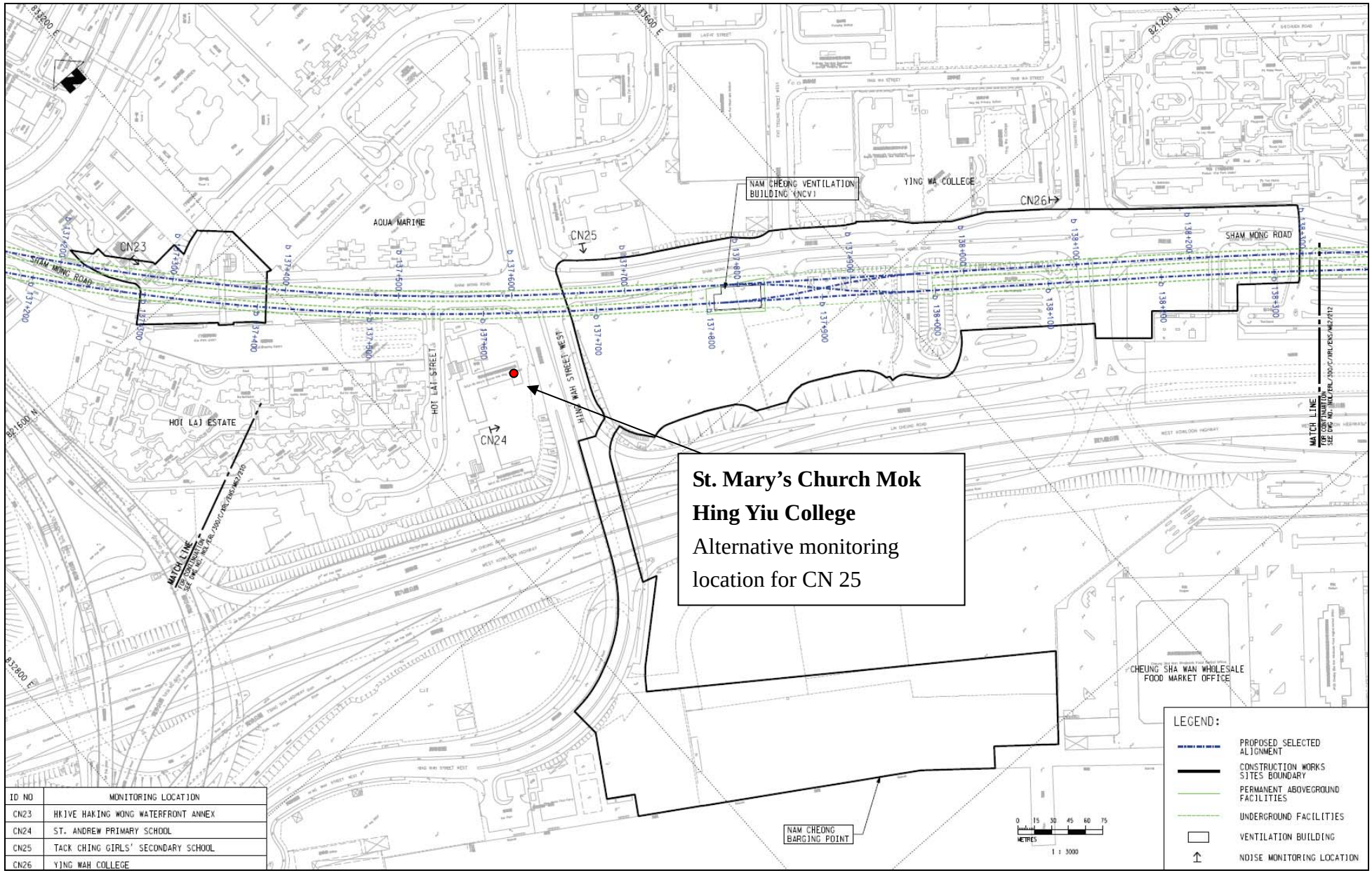


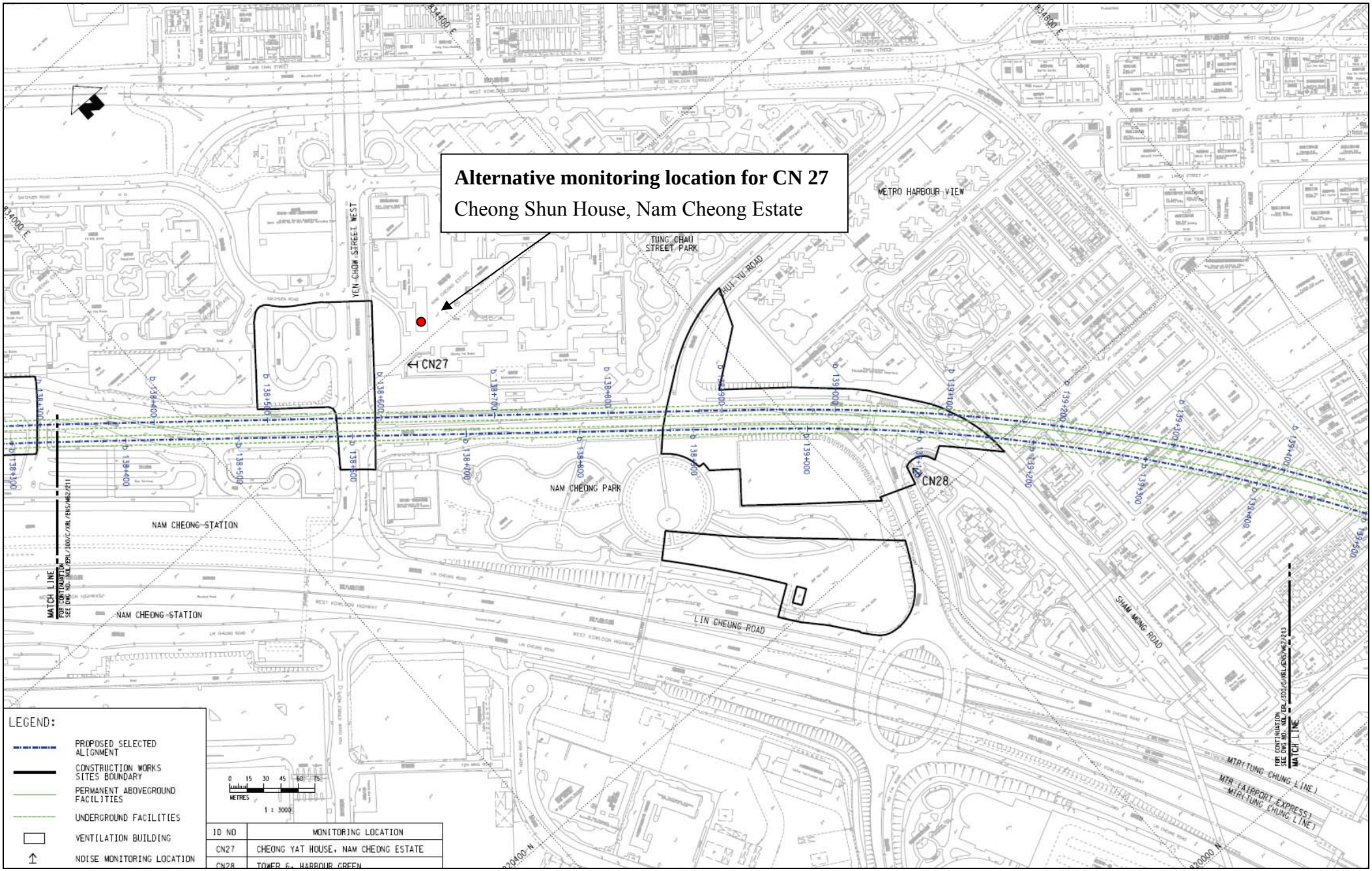

**Figure 3 – Noise Monitoring Location**

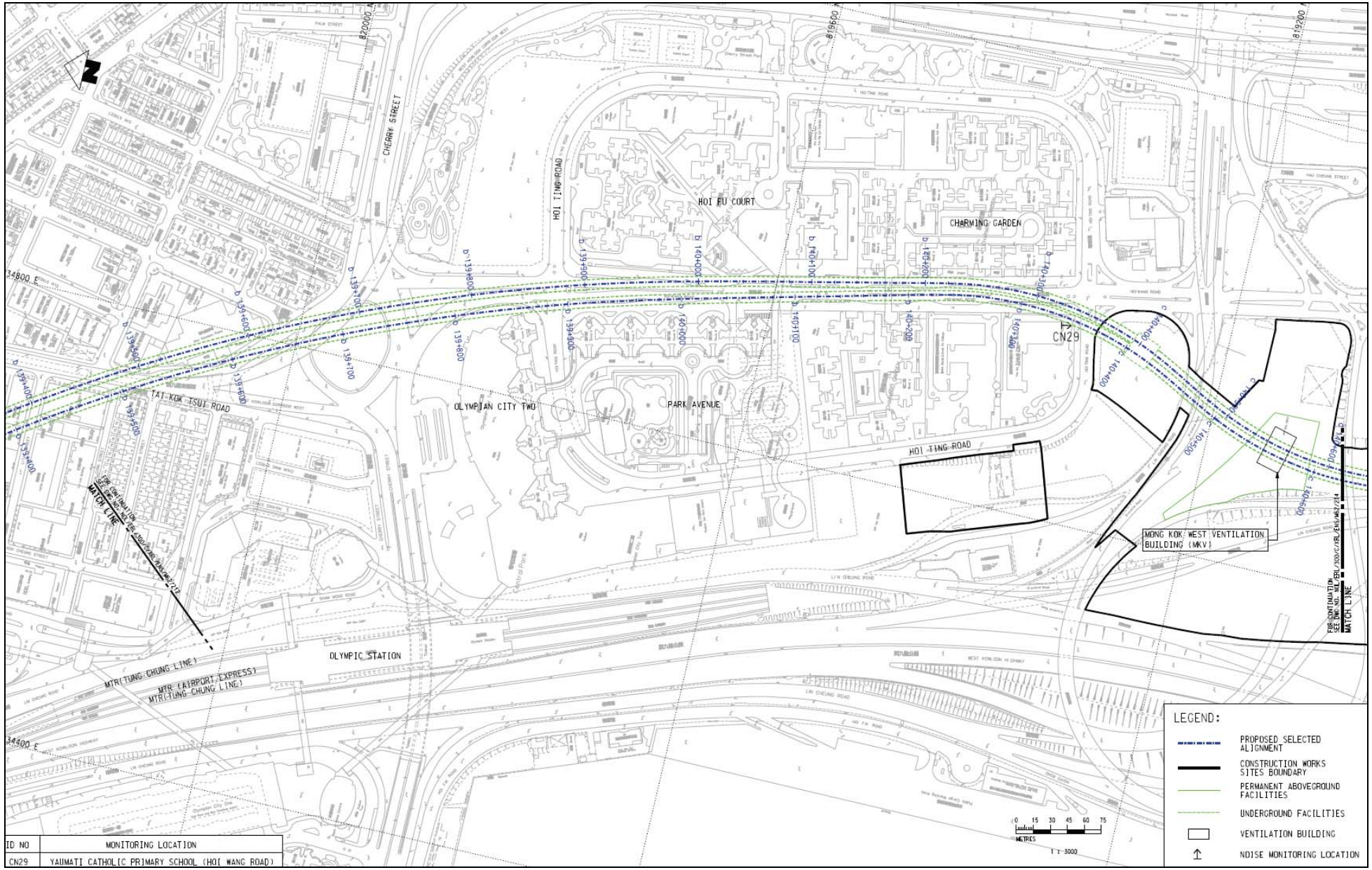



| ID NO | MONITORING LOCATION |
|---|---|
| CN21 | PO LEUNG KUK TONG NAI RAN COLLEGE |
| CN22 | BLOCK C, LAI CHI KOK RECEPTION CENTRE |
| CN23 | HOLYE HAKKING WONG WATERFRONT ANNEX |

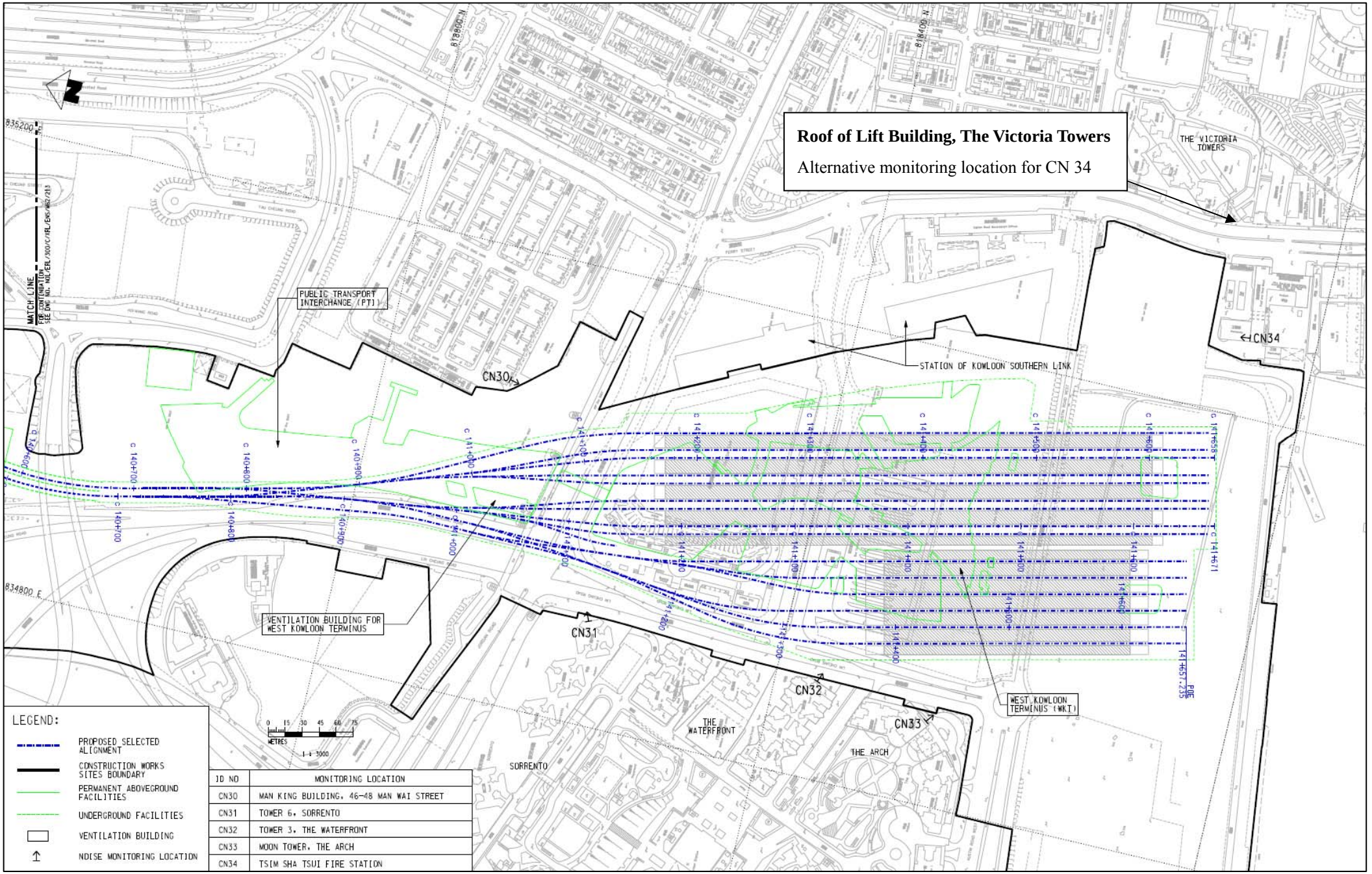



| ID NO | MONITORING LOCATION |
|---|---|
| CN23 | HKIVE HAKING WONG WATERFRONT ANNEX |
| CN24 | ST. ANDREW PRIMARY SCHOOL |
| CN25 | TACK CHING GIRLS' SECONDARY SCHOOL |
| CN26 | YING WAH COLLEGE |


Alternative monitoring location for CN 27
Cheong Shun House, Nam Cheong Estate
CN27
CN28
METRO HARBOUR VIEW
TUNG CHAU STREET PARK
YEN CHOW STREET WEST
HUI YU ROAD
NAM CHEONG PARK
NAM CHEONG STATION
NAM CHEONG STATION
LIN CHEUNG ROAD
SHAM MONG ROAD
WEST KOWLOON HIGHWAY
MATCH LINE
FOR CONTINUATION SEE DWG NO. MDL/EBL/300/C/XRL/ENS/MW2/2411
MATCH LINE
FOR CONTINUATION SEE DWG NO. MDL/EBL/300/C/XRL/ENS/MW2/2413
MTR (TUNG CHUNG LINE)
MTR (AIRPORT EXPRESS)
MTR (TUNG CHUNG LINE)
LEGEND:
PROPOSED SELECTED ALIGNMENT
CONSTRUCTION WORKS SITES BOUNDARY
PERMANENT ABOVEGROUND FACILITIES
UNDERGROUND FACILITIES
VENTILATION BUILDING
NOISE MONITORING LOCATION
0 15 30 45 60 75
METRES
1 : 3000
ID NO
MONITORING LOCATION
CN27
CHEONG YAT HOUSE, NAM CHEONG ESTATE
CN28
TOWER 6, HARBOUR GREEN

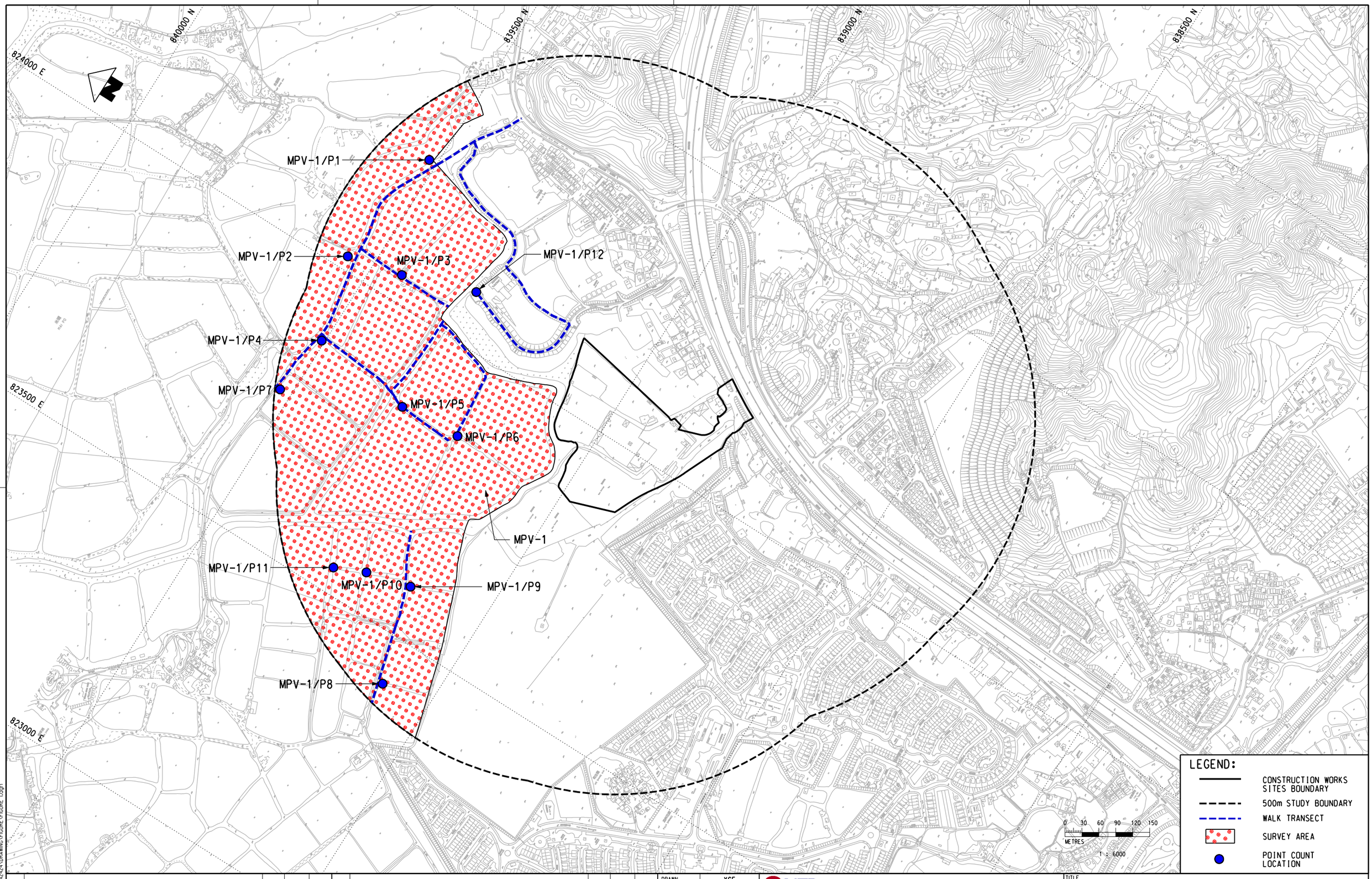



| ID NO | MONITORING LOCATION |
|---|---|
| CN29 | YAUMATI CATHOLIC PRIMARY SCHOOL (HOI WANG ROAD) |




| ID NO | MONITORING LOCATION |
|---|---|
| CN30 | MAN KING BUILDING, 46-48 MAN WAI STREET |
| CN31 | TOWER 6, SORRENTO |
| CN32 | TOWER 3, THE WATERFRONT |
| CN33 | MOON TOWER, THE ARCH |
| CN34 | TSIM SHA TSUI FIRE STATION |

**Noise monitoring locations**




| REV | DESCRIPTION | BY | DATE | APPROVED |
|---|---|---|---|---|
| | | | | |

| REV | DESCRIPTION | BY | DATE | APPROVED |
|---|---|---|---|---|
| | | | | |

| | |
|---|---|
| DRAWN | XCF |
| DESIGNED | TWF |
| CHECKED | KCC |
| APPROVED | PL |
| DATE | 10/OCT./2008 |

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ORIGINATOR

AECOM

CADD REF.
FIGURE 1.dgn

TITLE
# NOL / ERL-300
## BASELINE BIRD SURVEY FOR EIA
**PROPOSED SURVEY AREA, POINT COUNT LOCATION AND WALK TRANSECT FOR MPV-1**

| SCALE | FIGURE NO. | REV. |
|---|---|---|
| 1 : 6000 (A3) | FIGURE 1 | – |

PLOT DRV: r:\ustrnset\MTR\PLOTDRVER\WINDOWS\A3 COLOUR.pH
MODELNAME: Default PRINTED BY: CHENYG 2010-2-5
FILENAME: p:\PROJECTS\60042424\DRAWINGS\FIGURE 1.dgn 859947

834500 N
834000 N
833500 N
824000 E
824500 E
825000 E
825500 E

43CD-1
TPP-3/P3
TPP-3/P1
TPP-3/P2
TPP-3
TPP-2/P4
95CD
TPP-2/P3
TPP-2
TPP-2/P2
TPP-2/P1

0 30 60 90 120 150
METRES
1 : 6000

LEGEND:
- CONSTRUCTION WORKS SITES BOUNDARY
- 500m STUDY BOUNDARY
- WALK TRANSECT
- SURVEY AREA
- POINT COUNT LOCATION

PLOT DRV
MODELNAME:
FILENAME: F:\lastmod\WATER\PLOTDRV\ERWINDOWS\AS COLOUR.plt
DEFAULT
DATA\PROJECTS\60412470\DRAWING\FIGURE\FIGURE 2.dgn
PRINTED BY: spmyg
2009-11 13:51:44

| REV | DESCRIPTION | BY | DATE | APPROVED | REV | DESCRIPTION | BY | DATE | APPROVED |
|---|---|---|---|---|---|---|---|---|---|

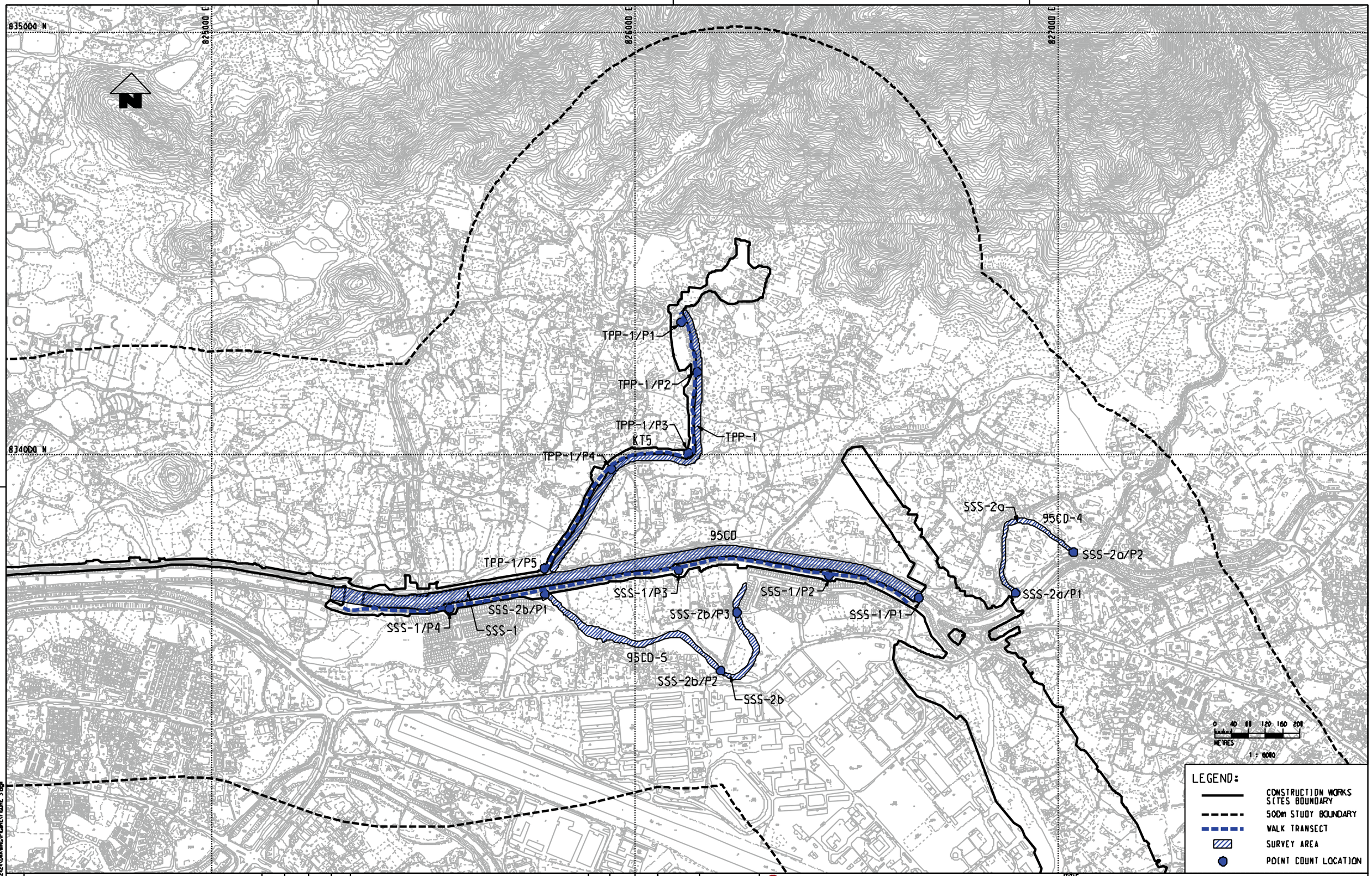
| | |
|---|---|
| DRAWN | YJP |
| DESIGNED | TWF |
| CHECKED | KCC |
| APPROVED | PL |
| DATE | 14/SEP./2009 |

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EXPRESS RAIL LINK
ORIGINATOR
AECOM
CADD REF. FIGURE 2.dgn

TITLE
NOL / ERL-300
BASELINE BIRD SURVEY FOR EIA
PROPOSED SURVEY AREA, POINT COUNT LOCATION AND WALK TRANSECT FOR TPP-2 AND TPP-3

| SCALE | FIGURE NO. | REV |
|---|---|---|
| 1 : 6000 (A3) | FIGURE 2 | - |




| REV | DESCRIPTION | BY | DATE | APPROVED |
|---|---|---|---|---|
| REV | DESCRIPTION | BY | DATE | APPROVED |

| | |
|---|---|
| DRAWN | Y.JP |
| DESIGNED | TWF |
| CHECKED | K.CC |
| APPROVED | PL |
| DATE | 14/SEP./2009 |

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ENDORSEMENT

AECOM

CADD REF FIGURE 3.dgn

TITLE

NOL / ERL-300

BASELINE BIRD SURVEY FOR EIA

PROPOSED SURVEY AREA, POINT COUNT LOCATION AND WALK TRANSECT FOR TPP-1, SSS-1,SSS-2a AND SSS-2b

SCALE 1 : 8000 (A3)

FIGURE NO. FIGURE 3

REV. -

PLOT DRW: c:\autocad\MTRYLO\DRIVER\NODEFLAS COLOUR.ctb
ADDED/MODIFIED BY: Cheryl
PLOTTED BY: 204-rm
FILENAME: P:\PROJECTS\60422\DIAGRAMS\FIGURE 3.dgn
19:13:40

827500 E
828000 E
828500 E
827000 E
833500 N
833000 N
832500 N
832000 N
831500 N

SSS-3

SSS-3/P1
SSS-3/P2
SSS-3/P3
SSS-3/P4
SSS-3/P5
SSS-3/P6
SSS-3/P7
SSS-3/P8
SSS-3/P9
SSS-3/P10
SSS-3/P11
SSS-3/P12

LEGEND:

- CONSTRUCTION WORKS SITES BOUNDARY
- 500m STUDY BOUNDARY
- WALK TRANSECT
- POINT COUNT LOCATION
- ACTIVE AGRICULTURE
- INACTIVE AGRICULTURE
- ACTIVE FISHPOND
- INACTIVE FISHPOND/POND
- REEDBED/FRESHWATER MARSH
- WATERCOURSE
- DRAINAGE CHANNEL
- GRASSLAND
- SEASONALLY WET GRASSLAND
- SECONDARY WOODLAND
- SHRUBLAND
- PLANTATION
- DEVELOPED AREA/WASTEGROUND

0 30 60 90 120 150
METRES
1 : 6000

PLOT DRV
MODELNAME
FILENAME: P:\mastmain\MTRPLOTDRIVER\WINDOWS\AS COLOUR.pltPLOTTED BY: CHWIYP 14/8/24
Default DATE: 2009-11
DATA\PROJECTS\60412621\PLOT\MRG\FIGURE\FIGURE 4.dgn

| REV | DESCRIPTION | BY | DATE | APPROVED |
|---|---|---|---|---|

| REV | DESCRIPTION | BY | DATE | APPROVED |
|---|---|---|---|---|

| | |
|---|---|
| DRAWN | YJP |
| DESIGNED | TWF |
| CHECKED | KCC |
| APPROVED | PL |
| DATE | 07/DEC./2009 |

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ORIGINATOR
AECOM

CADD REF.
FIGURE 4.dgn

TITLE
NOL / ERL-300
BASELINE BIRD SURVEY FOR EIA
PROPOSED SURVEY AREA, POINT COUNT LOCATION AND WALK TRANSECT FOR SSS-3

| SCALE | FIGURE NO. | REV |
|---|---|---|
| 1 : 6000 (A3) | FIGURE 4 | - |

827500 E
828000 E
828500 E
833500 N
833000 N
832500 N
832000 N
831500 N

TUW-1/P1
TUW-1/P2
TUW-1/P3
TUW-1/P4
TUW-1/P5
TUW-1/P6
TUW-1/P7
TUW-1

LEGEND:

- CONSTRUCTION WORKS SITES BOUNDARY
- 500m STUDY BOUNDARY
- WALK TRANSECT
- POINT COUNT LOCATION
- ACTIVE AGRICULTURE
- INACTIVE AGRICULTURE
- ACTIVE FISHPOND
- INACTIVE FISHPOND/POND
- REEDBED/FRESHWATER MARSH
- WATERCOURSE
- DRAINAGE CHANNEL
- GRASSLAND
- SEASONALLY WET GRASSLAND
- SECONDARY WOODLAND
- SHRUBLAND
- PLANTATION
- DEVELOPED AREA/WASTEGROUND

0 30 60 90 120 150
METRES
1 : 6000

PLOT DRV: P:\ustmaan\MTRPLOTDRIVER\WIN00RSV.AS COLOUR.pltr
MODELNAME: Default
PLTCHANGE: DATA\PROJECTS\60412621\PLOT\MXD\FIGURE 5.MXD
PLOTTED BY: CHWIYU 2009-11 14:54:44

| REV | DESCRIPTION | BY | DATE | APPROVED | REV | DESCRIPTION | BY | DATE | APPROVED |
|---|---|---|---|---|---|---|---|---|---|

| | |
|---|---|
| DRAWN | YJP |
| DESIGNED | TWF |
| CHECKED | KCC |
| APPROVED | PL |
| DATE | 07/DEC./2009 |

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ORIGINATOR: AECOM

CADD REF.: FIGURE 5.dgn

TITLE
NOL / ERL-300
BASELINE BIRD SURVEY FOR EIA
PROPOSED SURVEY AREA, POINT COUNT LOCATION AND WALK TRANSECT FOR TUW-1

| SCALE | FIGURE NO. | REV |
|---|---|---|
| 1 : 6000 (A3) | FIGURE 5 | - |

826000 E
827000 E
828000 E
829000 E
832000 N
833000 N
831000 N

TUW-2 and PHV-1/P2

TUW-2 and PHV-1/P1

TUW-2 AND PHV-1

LEGEND:

- CONSTRUCTION WORKS SITES BOUNDARY
- 500m STUDY BOUNDARY
- WALK TRANSECT
- SURVEY AREA
- POINT COUNT LOCATION

0 40 80 120 160 200
METRES
1 : 8000

| REV | DESCRIPTION | BY | DATE | APPROVED |
|---|---|---|---|---|
| REV | DESCRIPTION | BY | DATE | APPROVED |

| | |
|---|---|
| DRAWN | CYG |
| DESIGNED | TWF |
| CHECKED | KCC |
| APPROVED | PL |
| DATE | 07/DEC./2009 |

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AECOM

CADD REF FIGURE 6.dgn

TITLE

NOL / ERL-300

BASELINE BIRD SURVEY FOR EIA

PROPOSED SURVEY AREA, POINT COUNT LOCATION AND WALK TRANSECT FOR TUW-2 AND PHV-1

SCALE 1 : 8000 (A3)

FIGURE NO. FIGURE 6

REV. -

PLOT DWG: r:\submit\MTR\PLOTDRWG\WORDFILE\A3 COLOR.pdf
MODIFIED BY: Derfun
FILENAME: P:\PROJECTS\60042210\DRAWING\FIGURE 6.dgn
PLOTTED BY: TANG
2009-12
H:304

# Appendix E

# Monitoring Schedule

# Actual Construction Dust (24-hr TSP) Impact Monitoring Schedule - July 2016

Note 1: **TSP** denotes Total Suspended Particulate

| Jul-2016 | | | | | | |
|---|---|---|---|---|---|---|
| **Sunday** | **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** | **Saturday** |
| | | | | | 1 | 2 |
| 3 | 4<br>AM3, AM4, AM5, AM6, AM7, AM8 | 5<br>AM11, AM12, AM13, AM14, AM15, AM16, AM17 | 6<br>AM2, AM9, AM10 | 7<br>AM1* | 8 | 9<br>AM3, AM4, AM5, AM6, AM7, AM8 |
| 10 | 11<br>AM11, AM12, AM13, AM14, AM15, AM16, AM17 | 12<br>AM1, AM2, AM9, AM10 | 13 | 14 | 15<br>AM3, AM4, AM5, AM6, AM7, AM8 | 16<br>AM11, AM12, AM13, AM14, AM15, AM16, AM17 |
| 17 | 18<br>AM1, AM2, AM9, AM10 | 19 | 20 | 21<br>AM3, AM4, AM5, AM6, AM7, AM8 | 22<br>AM11, AM12, AM13, AM14, AM15, AM16, AM17 | 23<br>AM1, AM2, AM9, AM10 |
| 24 | 25 | 26 | 27<br>AM3, AM4, AM5, AM7, AM8 | 28<br>AM11, AM12, AM13, AM14, AM15, AM16, AM17 | 29<br>AM1, AM2, AM9, AM10 | 30 |
| 31 | | | | | | |

* 24-hr TSP impact monitoring for AM1 was suspended on 6 July 2016 due to electrical failure. The 24-hr TSP impact monitoring has been resumed on 7 July 2016

# 24-hr TSP impact monitoring for AM6 was suspended on 27 July 2016 due to power supply problem.

# Tentative Construction Dust (24-hr TSP) Impact Monitoring Schedule - August 2016

Note 1: **TSP** denotes Total Suspended Particulate

| Aug-2016 | | | | | | |
|---|---|---|---|---|---|---|
| **Sunday** | **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** | **Saturday** |
| | 1 | 2<br>AM3, AM4, AM5, AM6, AM7, AM8 | 3<br>AM11, AM12, AM13, AM14, AM15, AM16, AM17 | 4<br>AM1, AM2, AM9, AM10 | 5 | 6 |
| 7 | 8<br>AM3, AM4, AM5, AM6, AM7, AM8 | 9<br>AM11, AM12, AM13, AM14, AM15, AM16, AM17 | 10<br>AM1, AM2, AM9, AM10 | 11 | 12 | 13<br>AM3, AM4, AM5, AM6, AM7, AM8 |
| 14 | 15<br>AM11, AM12, AM13, AM14, AM15, AM16, AM17 | 16<br>AM1, AM2, AM9, AM10 | 17 | 18 | 19<br>AM3, AM4, AM5, AM6, AM7, AM8 | 20<br>AM11, AM12, AM13, AM14, AM15, AM16, AM17 |
| 21 | 22<br>AM1, AM2, AM9, AM10 | 23 | 24 | 25<br>AM3, AM4, AM5, AM6, AM7, AM8 | 26<br>AM11, AM12, AM13, AM14, AM15, AM16, AM17 | 27<br>AM1, AM2, AM9, AM10 |
| 28 | 29 | 30 | 31<br>AM3, AM4, AM5, AM6, AM7, AM8 | | | |

**Monitoring Schedule in the Reporting Month (01 July 2016 - 31 July 2016)**

| | CN1 | CN2 | CN3 | CN4 | CN5 | CN6 | CN7 | CN8 | CN9 | CN10 | CN11 | CN12 | CN13 | CN14 | CN15 | CN16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Date** | **No. 142 Mai Po San Tsuen** | **Mai Po San Tsuen Village Hse** | **Yau Tam Mei Village House** | **Yau Tam Mei Village House** | **Kong Tai Road Village House** | **Kong Tai Road Village House** | **House 93, Seasons Villas** | **DD110 LOT 482, Wang Toi Shan** | **Leung Uk Tsuen Village House** | **Leung Uk Tsuen Squats** | **182B, Wang Toi Shan San Tsuen** | **630 Sheung Tsuen** | **No. 489H Tse Uk Tsuen** | **Tse Uk Tsuen** | **No. 305B - Sheung Tsuen San Tsuen Village** | **DD 114 LOT 1405 Sheung Tsuen** |
| 01-Jul-16 | | | | | | | | | | | | | | | | |
| 02-Jul-16 | | | | | | | | | | | | | | | | |
| 03-Jul-16 | | | | | | | | | | | | | | | | |
| 04-Jul-16 | | | | | | | | | | | | | | | | ✓ |
| 05-Jul-16 | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 06-Jul-16 | | | | | | | | | | | | | | | | |
| 07-Jul-16 | | | | | | | | ✓ | | | | | | | | |
| 08-Jul-16 | | | | | | | | | | | | | | | | |
| 09-Jul-16 | | | | | | | | | | | | | | | | |
| 10-Jul-16 | | | | | | | | | | | | | | | | |
| 11-Jul-16 | | | | | | | | | | | | | | | | |
| 12-Jul-16 | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 13-Jul-16 | | | | | | | | | | | | | | | | |
| 14-Jul-16 | | | | | | | | | | | | | | | | |
| 15-Jul-16 | | | | | | | | | | | | | | | | |
| 16-Jul-16 | | | | | | | | | | | | | | | | |
| 17-Jul-16 | | | | | | | | | | | | | | | | |
| 18-Jul-16 | | | | ✓ | | | | | | | | | | | | |
| 19-Jul-16 | | | | | | | | | | | | ✓ | | ✓ | | |
| 20-Jul-16 | | | | | | | | | | | | | | | | |
| 21-Jul-16 | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ |
| 22-Jul-16 | | | | | | | | | | | | | | | | |
| 23-Jul-16 | | | | | | | | | | | | | | | | |
| 24-Jul-16 | | | | | | | | | | | | | | | | |
| 25-Jul-16 | | | | | | | | | | | | | ✓ | | | |
| 26-Jul-16 | | | | | | | | | | | | | | | | |
| 27-Jul-16 | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ |
| 28-Jul-16 | | | | | | | | | | | | | | | | |
| 29-Jul-16 | | | | | | | | | | | | | | | | |
| 30-Jul-16 | | | | | | | | | | | | | | | | |
| 31-Jul-16 | | | | | | | | | | | | | | | | |

- Impact monitoring at No. 142 Mai Po San Tsuen (CN 1) had been temporarily suspended since December 2012 due to house removal. Monitoring at this location will be resumed when an alternative location is determined.

**Monitoring Schedule in the Reporting Month (01 July 2016 - 31 July 2016)**

| | CN18 | CN19 | CN20 | CN21 | CN22 | CN23 | CN24 | CN25 | CN26 | CN27 | CN28 | CN29 | CN30 | CN31 | CN32 | CN33 | CN34 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Date** | **Sau Shan House** | **Sun Fung Centre** | **VTC Kwai Chung** | **Po Leung Kuk Tong Nai Kan College** | **Block I, Lai Chi Kok Reception Centre** | **HKIVE Haking Wong Waterfront Annex** | **St. Andrew Primary School** | **St. Mary's Church Mok Hing Yiu College** | **Ying Wah College** | **Cheong Shun House, Nam Cheong Estate** | **Tower 6, Harbour Green** | **Yaumati Catholic Primary School** | **Man Cheong Street Refuse Collection Point** | **Tower 6, Sorrento** | **Tower 3, The Waterfront** | **Star Tower, The Arch** | **The Victoria Towers** |
| 01-Jul-16 | | | | | | | | | | | | | | | | | |
| 02-Jul-16 | | | | | | | | | | | | | | | | | |
| 03-Jul-16 | | | | | | | | | | | | | | | | | |
| 04-Jul-16 | | | | | | | | | | | | | | | | | |
| 05-Jul-16 | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ |
| 06-Jul-16 | | | | | | | | | | | | | | | | | |
| 07-Jul-16 | | | | | | | | | | | | | | | | | |
| 08-Jul-16 | | | | | | | | | | | | | | | | | |
| 09-Jul-16 | | | | | | | | | | | | | | | | | |
| 10-Jul-16 | | | | | | | | | | | | | | | | | |
| 11-Jul-16 | | | | | | | | | | | | | | | | | |
| 12-Jul-16 | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | | | ✓ |
| 13-Jul-16 | | | | | | | | | | | | | | | | | |
| 14-Jul-16 | | | | | | | | | | | | | | | | | |
| 15-Jul-16 | | | | | | | | | | | | | | | ✓ | ✓ | |
| 16-Jul-16 | | | | | | | | | | | | | | | | | |
| 17-Jul-16 | | | | | | | | | | | | | | | | | |
| 18-Jul-16 | | | | | | | | ✓ | | | | ✓ | | | ✓ | ✓ | |
| 19-Jul-16 | | | ✓ | | | | | | | | ✓ | | | | | | |
| 20-Jul-16 | | | | | | | | | | | | | | | | | |
| 21-Jul-16 | ✓ | ✓ | | ✓ | ✓ | | ✓ | | ✓ | | | | ✓ | | | | ✓ |
| 22-Jul-16 | | | | | | | | | | | | | | | | | |
| 23-Jul-16 | | | | | | | | | | | | | | | | | |
| 24-Jul-16 | | | | | | | | | | | | | | | | | |
| 25-Jul-16 | | | | | | | | | | | | | | | | | |
| 26-Jul-16 | | ✓ | | | ✓ | | | | | | | | | | | | |
| 27-Jul-16 | ✓ | | ✓ | ✓ | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ |
| 28-Jul-16 | | | | | | | | | | | | | | | | | |
| 29-Jul-16 | | | | | | | | | | | | | | | | | |
| 30-Jul-16 | | | | | | | | | | | | | | | | | |
| 31-Jul-16 | | | | | | | | | | | | | | | | | |

- Impact monitoring at HKIVE Haking Wong Waterfront Annex (CN 23) has been suspended from March 2015 due to completion of works at CN23.
'- Due to completion of works in the vicinity at CN27, monitoring at Nam Cheong Estate (CN 27) has be suspended from September 2015.
'- Impact monitoring at Tower 6, Sorrento (CN31) had been temporarily suspended since end of August 2014 due to objection from the OC of Sorrento in August 2014. Monitoring at this location would be resumed when an alternative location is determined.

**Monitoring Schedule in the Next Reporting Month (01 August 2016 - 31 August 2016)**

| | CN1 | CN2 | CN3 | CN4 | CN5 | CN6 | CN7 | CN8 | CN9 | CN10 | CN11 | CN12 | CN13 | CN14 | CN15 | CN16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Date** | **No. 142 Mai Po San Tsuen** | **Mai Po San Tsuen Village Hse** | **Yau Tam Mei Village House** | **Yau Tam Mei Village House** | **Kong Tai Road Village House** | **Kong Tai Road Village House** | **House 93, Seasons Villas** | **DD110 LOT 482, Wang Toi Shan** | **Leung Uk Tsuen Village House** | **Leung Uk Tsuen Squats** | **182B, Wang Toi Shan San Tsuen** | **630 Sheung Tsuen** | **No. 489H Tse Uk Tsuen** | **Tse Uk Tsuen** | **No. 305B - Sheung Tsuen San Tsuen Village** | **DD 114 LOT 1405 Sheung Tsuen** |
| 01-Aug-16 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| 02-Aug-16 | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | |
| 03-Aug-16 | | | | | | | | | | | | | | | | |
| 04-Aug-16 | | ✓ | | | | | | | | | | | | | | |
| 05-Aug-16 | | | | | | | | | | | | | | | ✓ | ✓ |
| 06-Aug-16 | | | | | | | | | | | | | | | | |
| 07-Aug-16 | | | | | | | | | | | | | | | | |
| 08-Aug-16 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| 09-Aug-16 | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | |
| 10-Aug-16 | | | | | | | | | | | | | | | | |
| 11-Aug-16 | | ✓ | | | | | | | | | | | | | | |
| 12-Aug-16 | | | | | | | | | | | | | | | ✓ | ✓ |
| 13-Aug-16 | | | | | | | | | | | | | | | | |
| 14-Aug-16 | | | | | | | | | | | | | | | | |
| 15-Aug-16 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| 16-Aug-16 | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | |
| 17-Aug-16 | | | | | | | | | | | | | | | | |
| 18-Aug-16 | | ✓ | | | | | | | | | | | | | | |
| 19-Aug-16 | | | | | | | | | | | | | | | ✓ | ✓ |
| 20-Aug-16 | | | | | | | | | | | | | | | | |
| 21-Aug-16 | | | | | | | | | | | | | | | | |
| 22-Aug-16 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| 23-Aug-16 | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | |
| 24-Aug-16 | | | | | | | | | | | | | | | | |
| 25-Aug-16 | | ✓ | | | | | | | | | | | | | | |
| 26-Aug-16 | | | | | | | | | | | | | | | ✓ | ✓ |
| 27-Aug-16 | | | | | | | | | | | | | | | | |
| 28-Aug-16 | | | | | | | | | | | | | | | | |
| 29-Aug-16 | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| 30-Aug-16 | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | |
| 31-Aug-16 | | | | | | | | | | | | | | | | |

- Impact monitoring at No. 142 Mai Po San Tsuen (CN 1) had been temporarily suspended since December 2012 due to house removal. Monitoring at this location will be resumed when an alternative location is determined.

**Monitoring Schedule in the Next Reporting Month (01 August 2016 - 31 August 2016)**

| | CN18 | CN19 | CN20 | CN21 | CN22 | CN23 | CN24 | CN25 | CN26 | CN27 | CN28 | CN29 | CN30 | CN31 | CN32 | CN33 | CN34 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Date** | **Sau Shan House** | **Sun Fung Centre** | **VTC Kwai Chung** | **Po Leung Kuk Tong Nai Kan College** | **Block I, Lai Chi Kok Reception Centre** | **HKIVE Haking Wong Waterfront Annex** | **St. Andrew Primary School** | **St. Mary's Church Mok Hing Yiu College** | **Ying Wah College** | **Cheong Shun House, Nam Cheong Estate** | **Tower 6, Harbour Green** | **Yaumati Catholic Primary School** | **Man Cheong Street Refuse Collection Point** | **Tower 6, Sorrento** | **Tower 3, The Waterfront** | **Star Tower, The Arch** | **The Victoria Towers** |
| 01-Aug-16 | | | ✓ | | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | | | |
| 02-Aug-16 | | | | | | | | | | | | | | | | | |
| 03-Aug-16 | | | | | | | | | | | | | | | | | |
| 04-Aug-16 | | | | | | | | | | | | | | | ✓ | ✓ | ✓ |
| 05-Aug-16 | ✓ | ✓ | | ✓ | | | | | | | | | | | | | |
| 06-Aug-16 | | | | | | | | | | | | | | | | | |
| 07-Aug-16 | | | | | | | | | | | | | | | | | |
| 08-Aug-16 | | | ✓ | | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | | | |
| 09-Aug-16 | | | | | | | | | | | | | | | | | |
| 10-Aug-16 | | | | | | | | | | | | | | | | | |
| 11-Aug-16 | | | | | | | | | | | | | | | ✓ | ✓ | ✓ |
| 12-Aug-16 | ✓ | ✓ | | ✓ | | | | | | | | | | | | | |
| 13-Aug-16 | | | | | | | | | | | | | | | | | |
| 14-Aug-16 | | | | | | | | | | | | | | | | | |
| 15-Aug-16 | | | ✓ | | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | | | |
| 16-Aug-16 | | | | | | | | | | | | | | | | | |
| 17-Aug-16 | | | | | | | | | | | | | | | | | |
| 18-Aug-16 | | | | | | | | | | | | | | | ✓ | ✓ | ✓ |
| 19-Aug-16 | ✓ | ✓ | | ✓ | | | | | | | | | | | | | |
| 20-Aug-16 | | | | | | | | | | | | | | | | | |
| 21-Aug-16 | | | | | | | | | | | | | | | | | |
| 22-Aug-16 | | | ✓ | | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | | | |
| 23-Aug-16 | | | | | | | | | | | | | | | | | |
| 24-Aug-16 | | | | | | | | | | | | | | | | | |
| 25-Aug-16 | | | | | | | | | | | | | | | ✓ | ✓ | ✓ |
| 26-Aug-16 | ✓ | ✓ | | ✓ | | | | | | | | | | | | | |
| 27-Aug-16 | | | | | | | | | | | | | | | | | |
| 28-Aug-16 | | | | | | | | | | | | | | | | | |
| 29-Aug-16 | | | ✓ | | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | | | |
| 30-Aug-16 | | | | | | | | | | | | | | | | | |
| 31-Aug-16 | | | | | | | | | | | | | | | | | |

- Impact monitoring at HKIVE Haking Wong Waterfront Annex (CN 23) has been suspended from March 2015 due to completion of works at CN23.
'- Due to completion of works in the vicinity at CN27, monitoring at Nam Cheong Estate (CN 27) has be suspended from September 2015.
'- Impact monitoring at Tower 6, Sorrento (CN31) had been temporarily suspended since end of August 2014 due to objection from the OC of Sorrento in August 2014. Monitoring at this location would be resumed when an alternative location is determined.

## Appendix E Monitoring Schedule

| Works Area | Survey Site | Date of Survey in July 2016 | Tentative Date of Survey in August 2016 |
|---|---|---|---|
| MPV | MPV-1 | 15 July 2016 | 5 August 2016 |
| Access road leading to TPP | TPP-1 | 15 July 2016 | 5 August 2016 |
| Access road leading to TPP | TPP-2 | 15 July 2016 | 5 August 2016 |
| Access road leading to TPP | TPP-3 | 15 July 2016 | 5 August 2016 |
| Access road leading to SSS / ERS | SSS-2a | 15 July 2016 | 5 August 2016 |
| Access road leading to SSS / ERS | SSS-3 | 15 July 2016 | 5 August 2016 |
| TUW | TUW-1 | 15 July 2016 | 5 August 2016 |
| TUW | TUW-2 (grouped with PHV-1 due to overlapping of survey area | 15 July 2016 | 5 August 2016 |
| PHV | PHV-1 (grouped with TUW-2 due to overlapping of survey area) | 15 July 2016 | 5 August 2016 |

# Appendix F

# Graphical Plots of Monitoring Results

## APPENDIX F: Air Quality Monitoring Results - 24-hour TSP Monitoring

**- AM1**

| Date | 24-hour TSP Monitoring Results ($\mu g/m^3$) | Action Level ($\mu g/m^3$) | Limit Level ($\mu g/m^3$) |
|---|---|---|---|
| 2016-07-07 | 74.5 | 217.3 | 260 |
| 2016-07-12 | 35.2 | 217.3 | 260 |
| 2016-07-18 | 42.1 | 217.3 | 260 |
| 2016-07-23 | 59.3 | 217.3 | 260 |
| 2016-07-29 | 70.1 | 217.3 | 260 |
| | | | |

**- AM2**

| Date | 24-hour TSP Monitoring Results ($\mu g/m^3$) | Action Level ($\mu g/m^3$) | Limit Level ($\mu g/m^3$) |
|---|---|---|---|
| 2016-07-06 | 25.8 | 179.4 | 260 |
| 2016-07-12 | 21.5 | 179.4 | 260 |
| 2016-07-18 | 33.1 | 179.4 | 260 |
| 2016-07-23 | 32.8 | 179.4 | 260 |
| 2016-07-29 | 45.7 | 179.4 | 260 |
| | | | |

**- AM3**

| Date | 24-hour TSP Monitoring Results ($\mu g/m^3$) | Action Level ($\mu g/m^3$) | Limit Level ($\mu g/m^3$) |
|---|---|---|---|
| 2016-07-04 | 56.0 | 154.7 | 260 |
| 2016-07-09 | 58.8 | 154.7 | 260 |
| 2016-07-15 | 10.3 | 154.7 | 260 |
| 2016-07-21 | 10.6 | 154.7 | 260 |
| 2016-07-27 | 64.7 | 154.7 | 260 |
| | | | |

**- AM4**

| Date | 24-hour TSP Monitoring Results ($\mu g/m^3$) | Action Level ($\mu g/m^3$) | Limit Level ($\mu g/m^3$) |
|---|---|---|---|
| 2016-07-04 | 24.9 | 148.6 | 260 |
| 2016-07-09 | 28.1 | 148.6 | 260 |
| 2016-07-15 | 29.6 | 148.6 | 260 |
| 2016-07-21 | 24.9 | 148.6 | 260 |
| 2016-07-27 | 30.9 | 148.6 | 260 |
| | | | |

**- AM5**

| Date | 24-hour TSP Monitoring Results ($\mu g/m^3$) | Action Level ($\mu g/m^3$) | Limit Level ($\mu g/m^3$) |
|---|---|---|---|
| 2016-07-04 | 22.8 | 152 | 260 |
| 2016-07-09 | 57.5 | 152 | 260 |
| 2016-07-15 | 17.5 | 152 | 260 |
| 2016-07-21 | 19.1 | 152 | 260 |
| 2016-07-27 | 24.6 | 152 | 260 |
| | | | |

**- AM6**

| Date | 24-hour TSP Monitoring Results ($\mu g/m^3$) | Action Level ($\mu g/m^3$) | Limit Level ($\mu g/m^3$) |
|---|---|---|---|
| 2016-07-04 | 36.4 | 145.6 | 260 |
| 2016-07-09 | 95.3 | 145.6 | 260 |
| 2016-07-15 | 48.4 | 145.6 | 260 |
| 2016-07-21 | 28.1 | 145.6 | 260 |
| | | | |
| | | | |

**- AM7**

| Date | 24-hour TSP Monitoring Results ($\mu g/m^3$) | Action Level ($\mu g/m^3$) | Limit Level ($\mu g/m^3$) |
|---|---|---|---|
| 2016-07-04 | 44.2 | 149.8 | 260 |
| 2016-07-09 | 61.0 | 149.8 | 260 |
| 2016-07-15 | 23.0 | 149.8 | 260 |
| 2016-07-21 | 19.6 | 149.8 | 260 |
| 2016-07-27 | 22.0 | 149.8 | 260 |
| | | | |

**- AM8**

| Date | 24-hour TSP Monitoring Results ($\mu g/m^3$) | Action Level ($\mu g/m^3$) | Limit Level ($\mu g/m^3$) |
|---|---|---|---|
| 2016-07-04 | 32.6 | 158.2 | 260 |
| 2016-07-09 | 69.9 | 158.2 | 260 |
| 2016-07-15 | 43.7 | 158.2 | 260 |
| 2016-07-21 | 36.4 | 158.2 | 260 |
| 2016-07-27 | 41.1 | 158.2 | 260 |
| | | | |

* 24-hr TSP impact monitoring for AM6 was suspended on 27 July 2016 due to power supply problem.

## APPENDIX F: Air Quality Monitoring Results - 24-hour TSP Monitoring

**- AM9**

| Date | 24-hour TSP Monitoring Results | Action Level | Limit Level |
|---|---|---|---|
| | (μg/m$^3$) | (μg/m$^3$) | (μg/m$^3$) |
| 2016-07-06 | 24.9 | 171.2 | 260 |
| 2016-07-12 | 25.5 | 171.2 | 260 |
| 2016-07-18 | 30.5 | 171.2 | 260 |
| 2016-07-23 | 23.4 | 171.2 | 260 |
| 2016-07-29 | 33.8 | 171.2 | 260 |
| | | | |

**- AM10**

| Date | 24-hour TSP Monitoring Results | Action Level | Limit Level |
|---|---|---|---|
| | (μg/m$^3$) | (μg/m$^3$) | (μg/m$^3$) |
| 2016-07-06 | 29.9 | 174.8 | 260 |
| 2016-07-12 | 28.3 | 174.8 | 260 |
| 2016-07-18 | 41.1 | 174.8 | 260 |
| 2016-07-23 | 23.9 | 174.8 | 260 |
| 2016-07-29 | 38.2 | 174.8 | 260 |
| | | | |

**- AM11**

| Date | 24-hour TSP Monitoring Results | Action Level | Limit Level |
|---|---|---|---|
| | (μg/m$^3$) | (μg/m$^3$) | (μg/m$^3$) |
| 2016-07-05 | 46.0 | 160.3 | 260 |
| 2016-07-11 | 32.8 | 160.3 | 260 |
| 2016-07-16 | 48.7 | 160.3 | 260 |
| 2016-07-22 | 20.6 | 160.3 | 260 |
| 2016-07-28 | 67.4 | 160.3 | 260 |
| | | | |

**- AM12**

| Date | 24-hour TSP Monitoring Results | Action Level | Limit Level |
|---|---|---|---|
| | (μg/m$^3$) | (μg/m$^3$) | (μg/m$^3$) |
| 2016-07-05 | 24.6 | 162.5 | 260 |
| 2016-07-11 | 39.2 | 162.5 | 260 |
| 2016-07-16 | 46.1 | 162.5 | 260 |
| 2016-07-22 | 33.3 | 162.5 | 260 |
| 2016-07-28 | 31.5 | 162.5 | 260 |
| | | | |

**- AM13**

| Date | 24-hour TSP Monitoring Results | Action Level | Limit Level |
|---|---|---|---|
| | (μg/m$^3$) | (μg/m$^3$) | (μg/m$^3$) |
| 2016-07-05 | 25.8 | 180.3 | 260 |
| 2016-07-11 | 34.2 | 180.3 | 260 |
| 2016-07-16 | 23.8 | 180.3 | 260 |
| 2016-07-22 | 14.9 | 180.3 | 260 |
| 2016-07-28 | 30.8 | 180.3 | 260 |
| | | | |

**- AM14**

| Date | 24-hour TSP Monitoring Results | Action Level | Limit Level |
|---|---|---|---|
| | (μg/m$^3$) | (μg/m$^3$) | (μg/m$^3$) |
| 2016-07-05 | 26.2 | 158.2 | 260 |
| 2016-07-11 | 40.1 | 158.2 | 260 |
| 2016-07-16 | 28.2 | 158.2 | 260 |
| 2016-07-22 | 31.5 | 158.2 | 260 |
| 2016-07-28 | 82.6 | 158.2 | 260 |
| | | | |

**- AM15**

| Date | 24-hour TSP Monitoring Results | Action Level | Limit Level |
|---|---|---|---|
| | (μg/m$^3$) | (μg/m$^3$) | (μg/m$^3$) |
| 2016-07-05 | 28.3 | 168.8 | 260 |
| 2016-07-11 | 38.9 | 168.8 | 260 |
| 2016-07-16 | 37.9 | 168.8 | 260 |
| 2016-07-22 | 30.1 | 168.8 | 260 |
| 2016-07-28 | 83.1 | 168.8 | 260 |
| | | | |

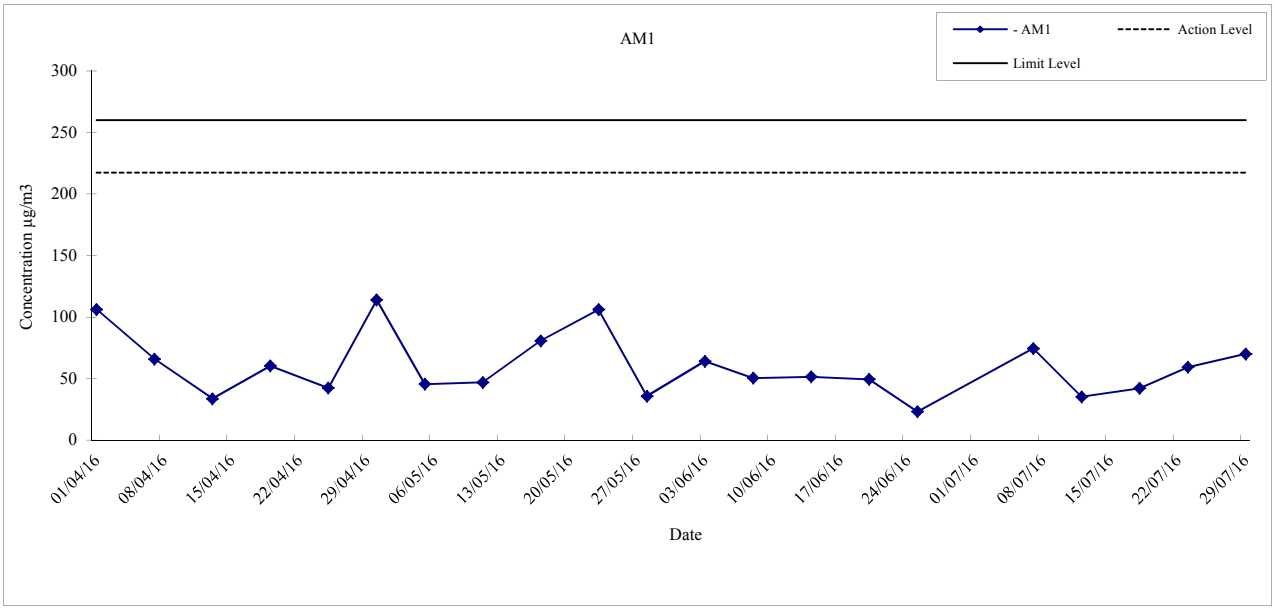
**- AM16**

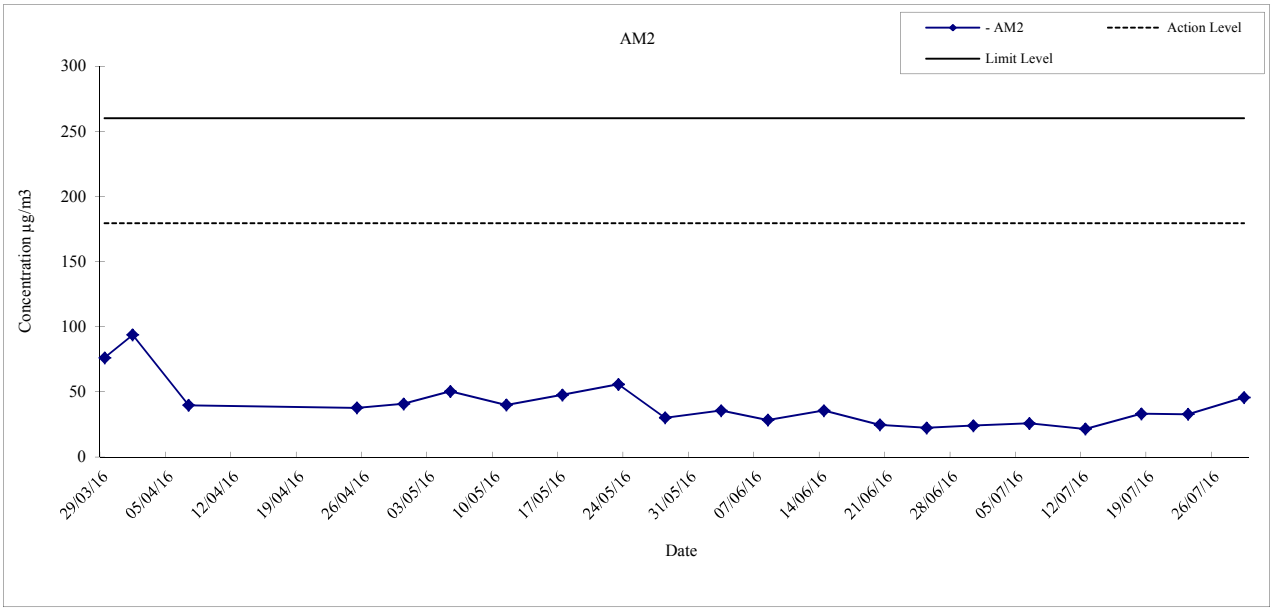
| Date | 24-hour TSP Monitoring Results | Action Level | Limit Level |
|---|---|---|---|
| | (μg/m$^3$) | (μg/m$^3$) | (μg/m$^3$) |
| 2016-07-05 | 37.3 | 155.9 | 260 |
| 2016-07-11 | 46.3 | 155.9 | 260 |
| 2016-07-16 | 27.1 | 155.9 | 260 |
| 2016-07-22 | 27.0 | 155.9 | 260 |
| 2016-07-28 | 35.6 | 155.9 | 260 |
| | | | |

**- AM17**

| Date | 24-hour TSP Monitoring Results | Action Level | Limit Level |
|---|---|---|---|
| | (μg/m$^3$) | (μg/m$^3$) | (μg/m$^3$) |
| 2016-07-05 | 22.3 | 179.3 | 260 |
| 2016-07-11 | 54.3 | 179.3 | 260 |
| 2016-07-16 | 103.4 | 179.3 | 260 |
| 2016-07-22 | 53.5 | 179.3 | 260 |
| 2016-07-28 | 44.4 | 179.3 | 260 |
| | | | |

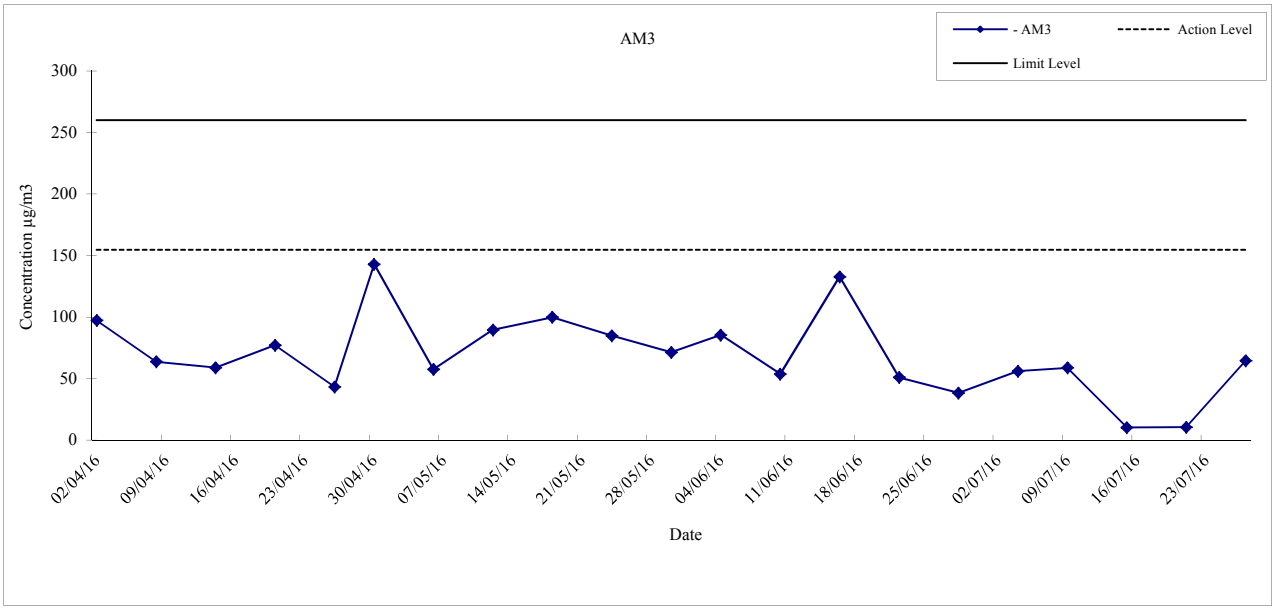
Remark: ***Bold value indicated an Action level exceedance***
***Bold & Italic value indicated an Limit level exceedance***

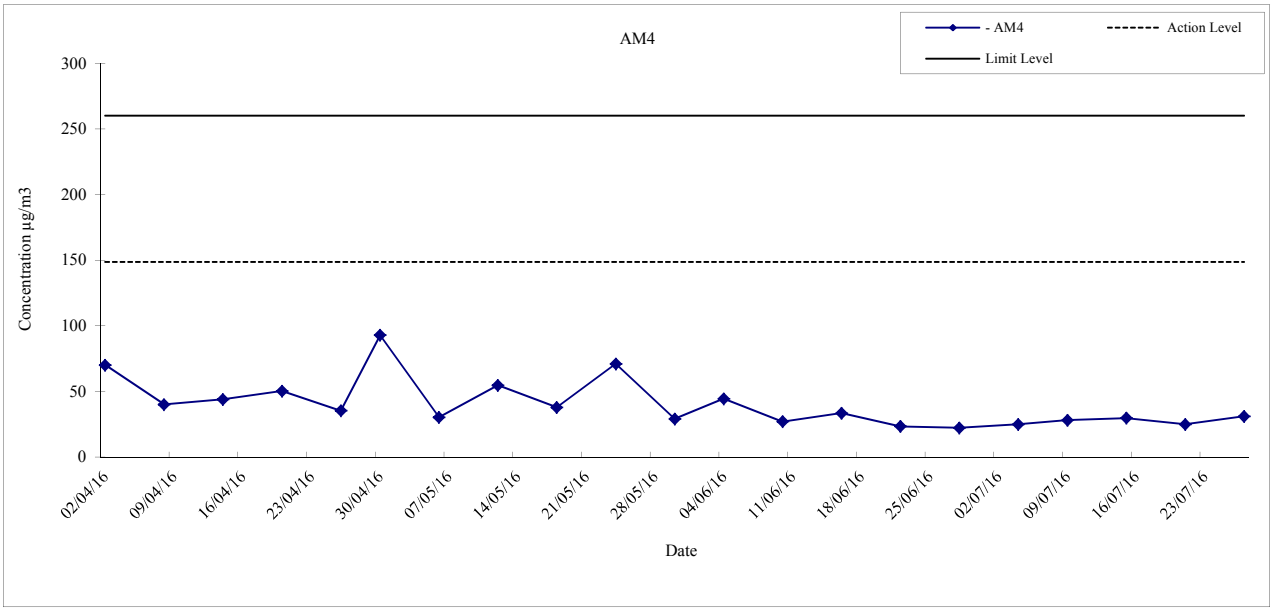


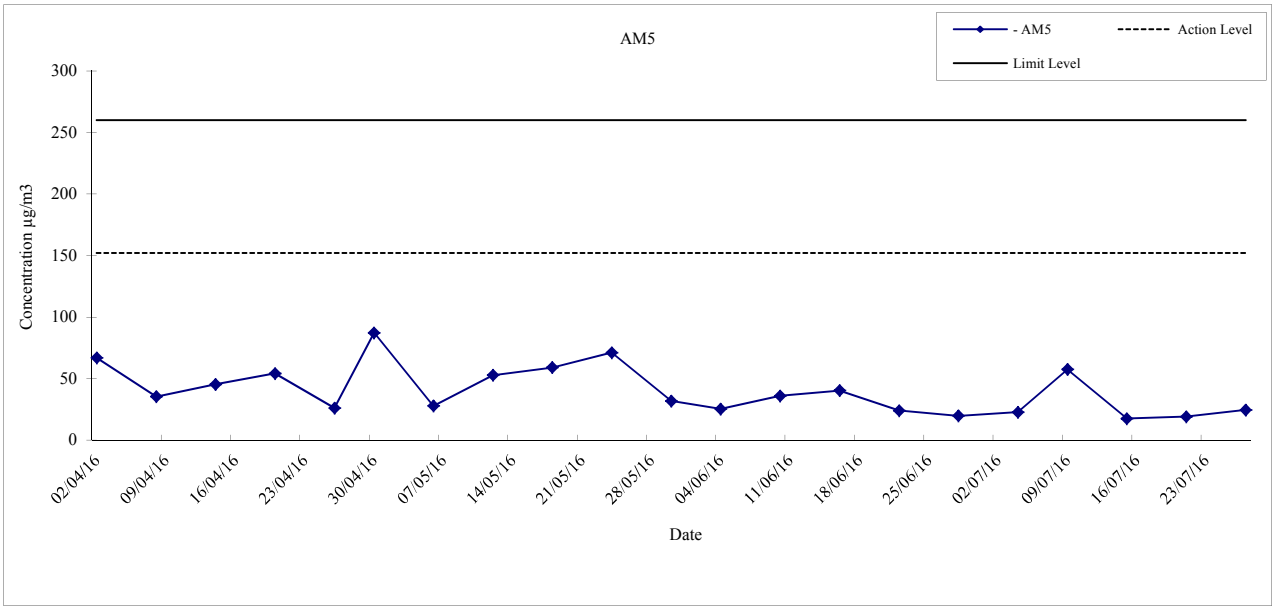

- 24-hr TSP impact monitoring for AM2 was suspended on 13 April and 19 April 2016 due to power supply problem. The 24-hr TSP impact monitoring has been resumed on 25 April 2016.

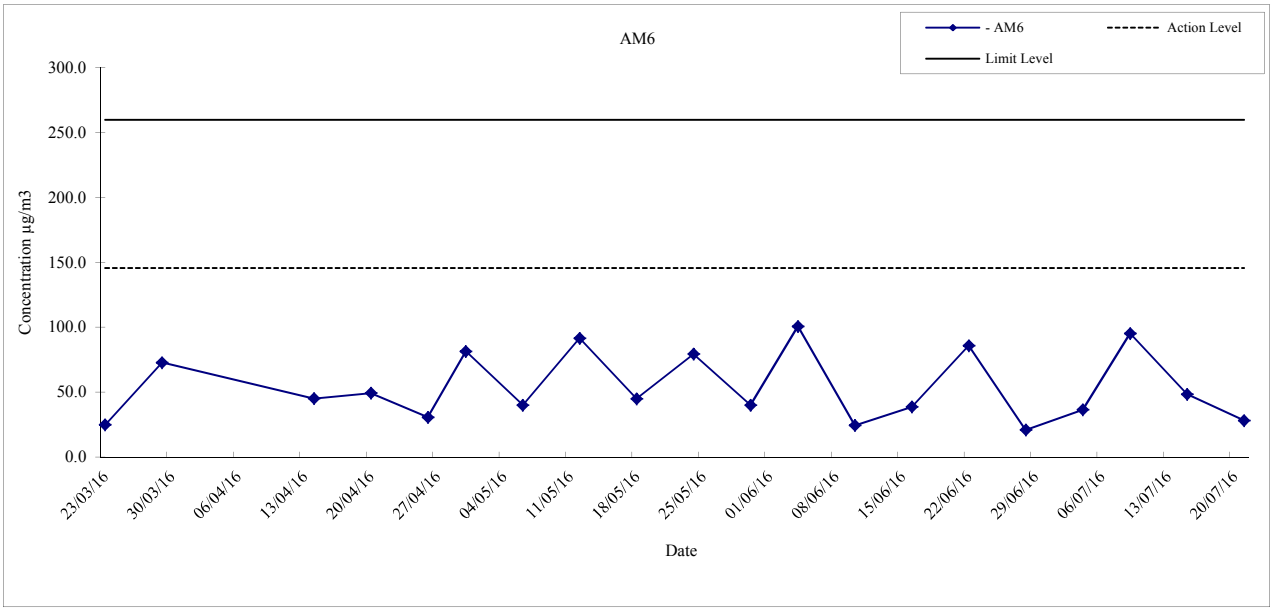
| | | | |
|---|---|---|---|
| MTR | Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link<br>**Graphical Presentation of 24-hour TSP Monitoring Result for Location AM1 and AM2** | **Date** | **2016** |
| | | **APPENDIX** | **F** |



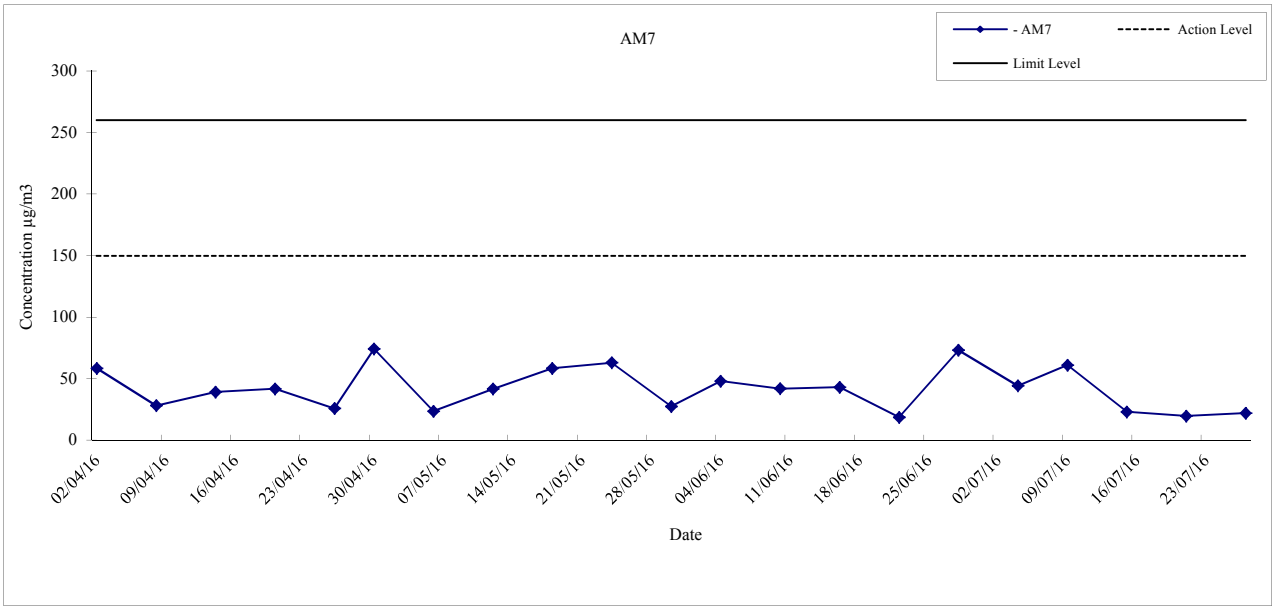

| | | | |
|---|---|---|---|
| MTR | Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link<br>**Graphical Presentation of 24-hour TSP**<br>**Monitoring Result for Location AM3 and AM4** | **Date** | **2016** |
| | | **APPENDIX** | **F** |

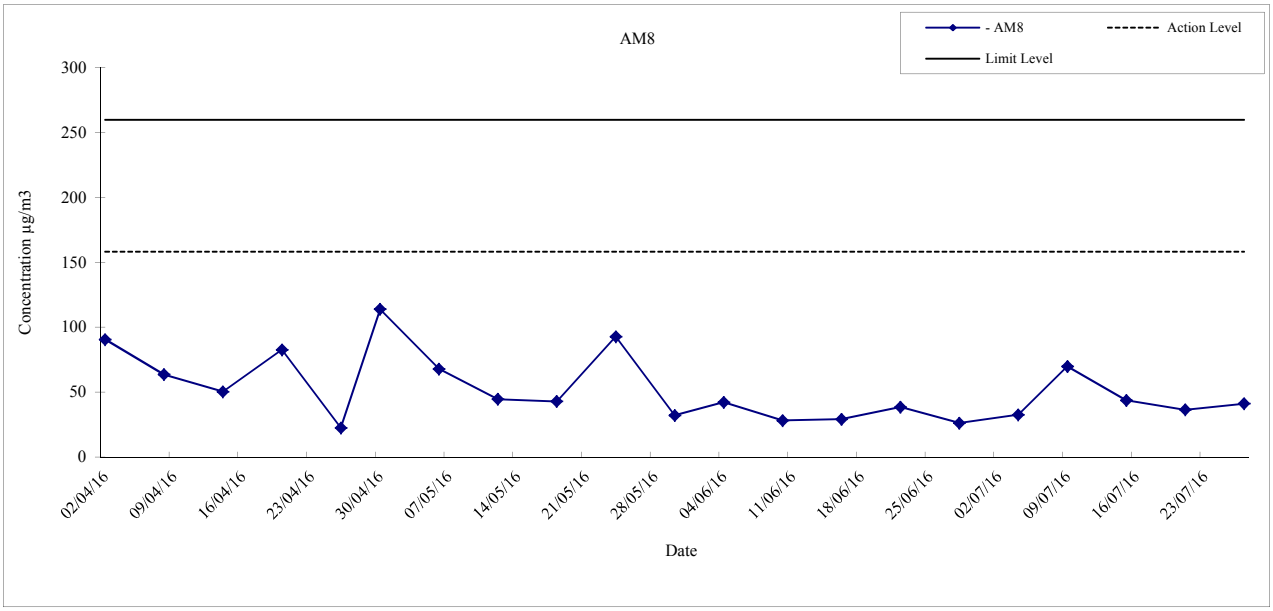


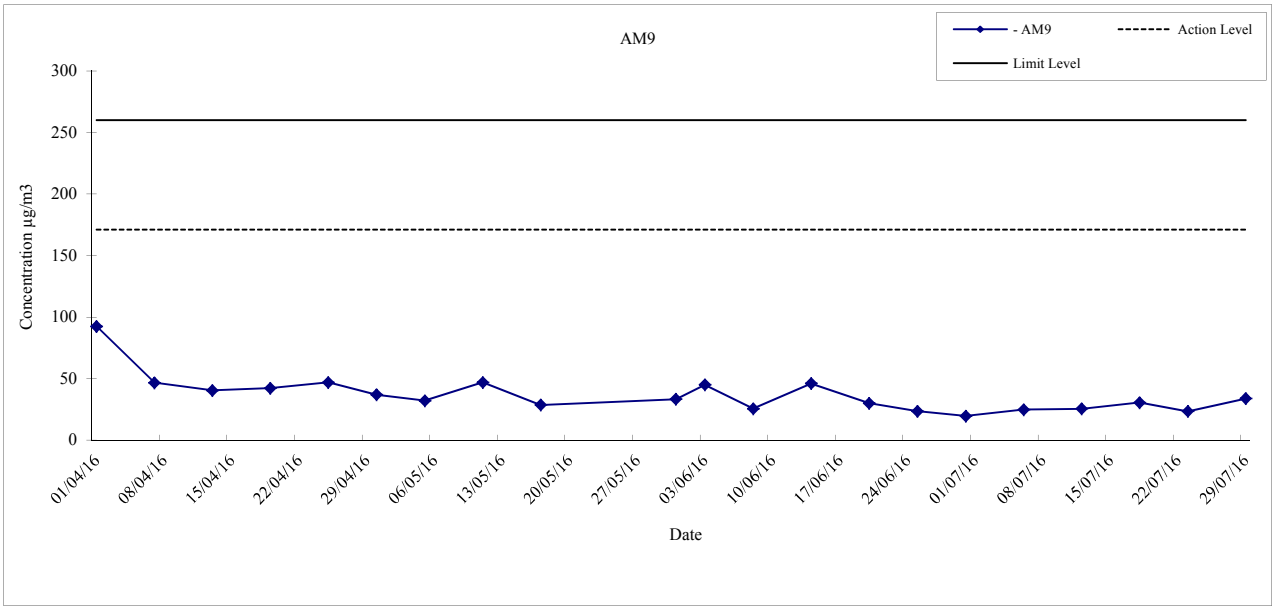

- 24-hr TSP impact monitoring for AM6 was suspended on 2 April and 8 April 2016 due to power supply problem. The 24-hr TSP impact monitoring has been resumed on 14 April 2016.
- 24-hr TSP impact monitoring for AM6 was suspended on 27 July 2016 due to power supply problem.

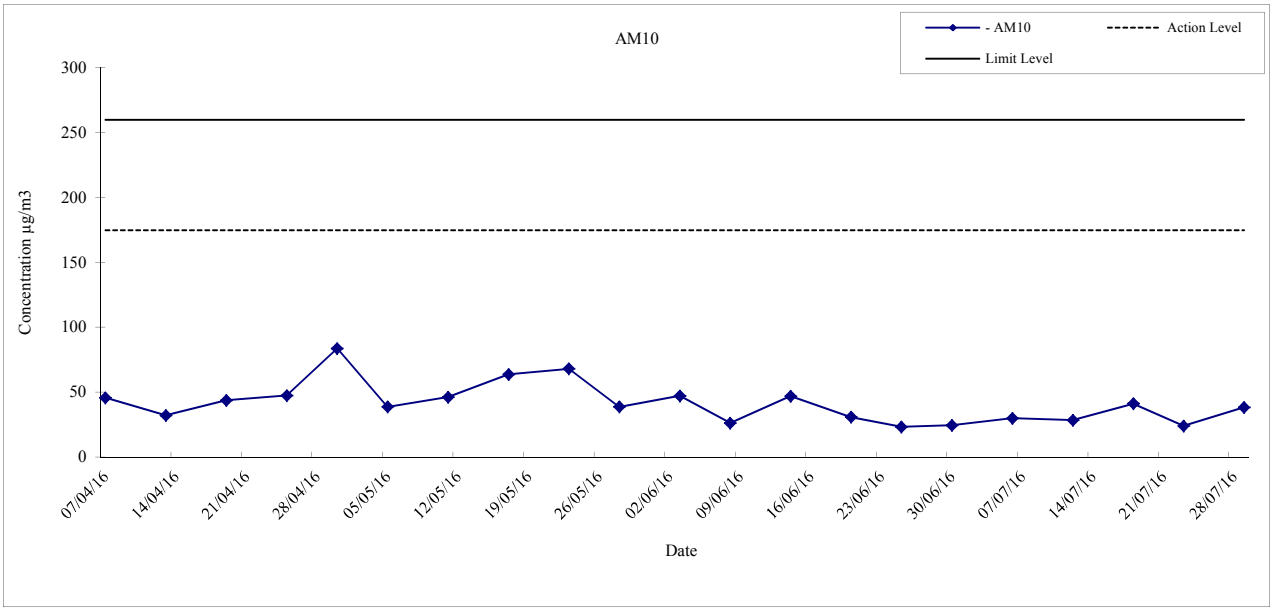
| | | | |
|---|---|---|---|
| MTR | Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link<br>**Graphical Presentation of 24-hour TSP**<br>**Monitoring Result for Location AM5 and AM6** | **Date** | **2016** |
| | | **APPENDIX** | **F** |



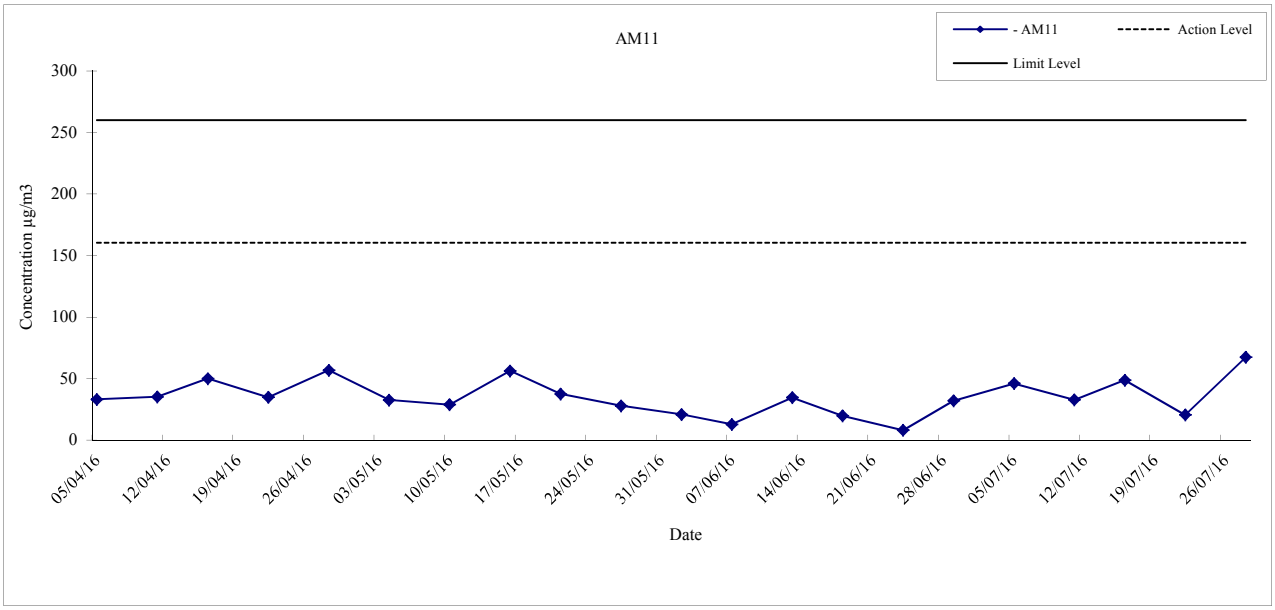

| | | | |
|---|---|---|---|
| MTR | Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link<br>**Graphical Presentation of 24-hour TSP**<br>**Monitoring Result for Location AM7 and AM8** | **Date** | **2016** |
| | | **APPENDIX** | **F** |

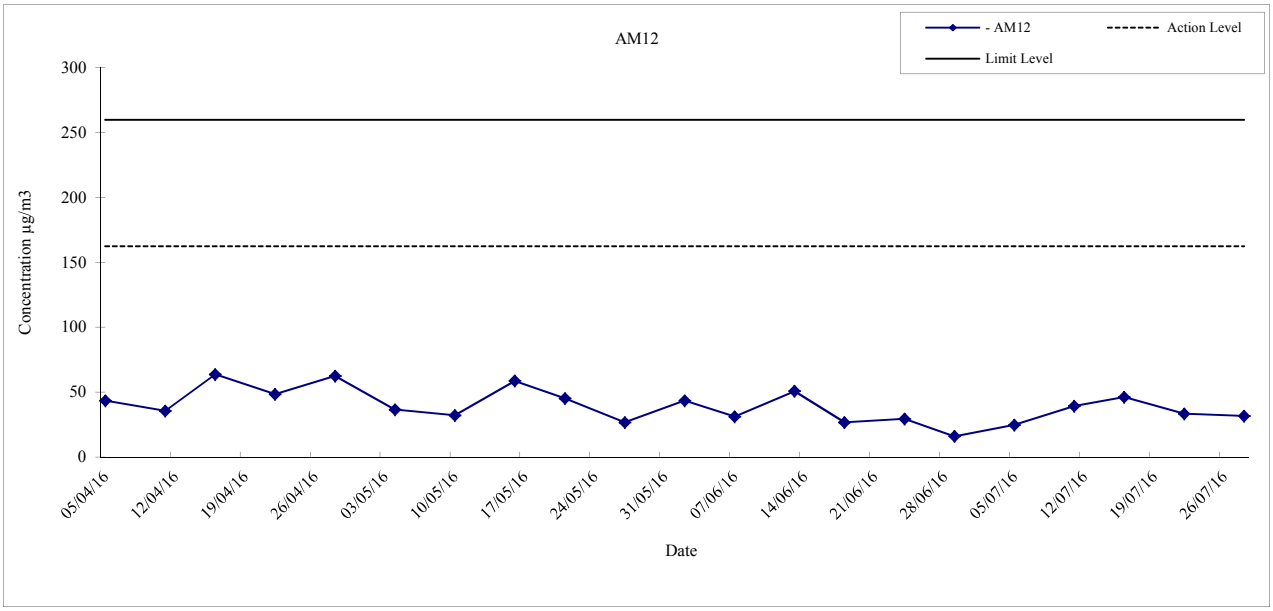


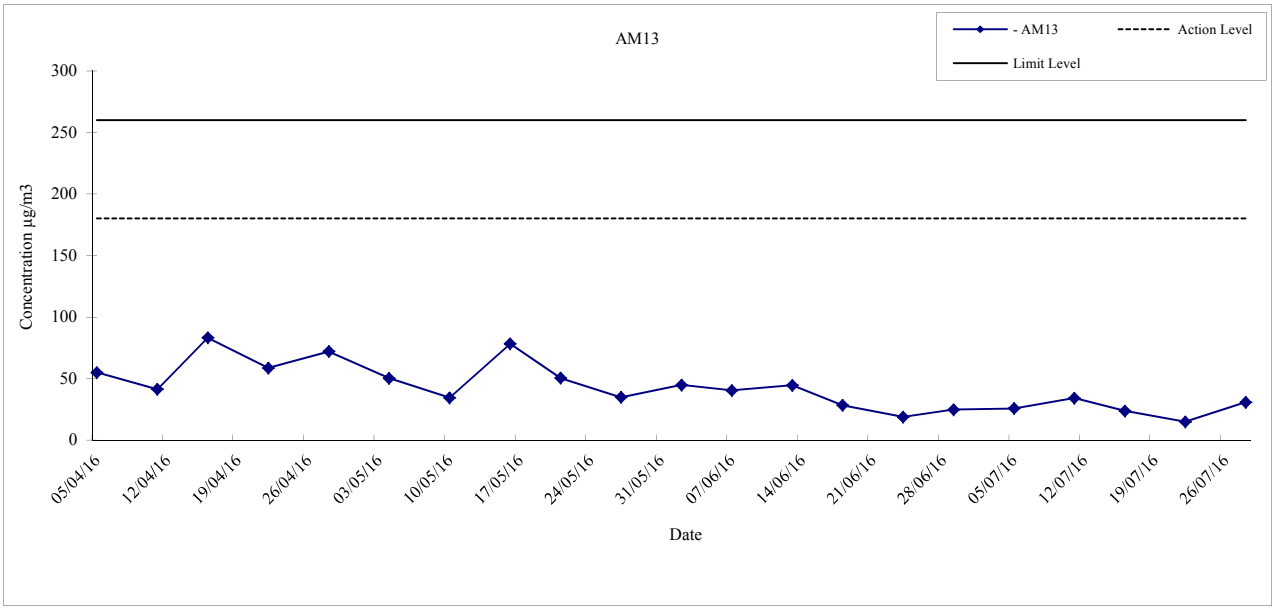

- 24-hr TSP impact monitoring for AM9 was suspended on 23 May and 28 May 2016 due to power supply problem. The 24-hr TSP impact monitoring has been resumed on 31 May 2016.

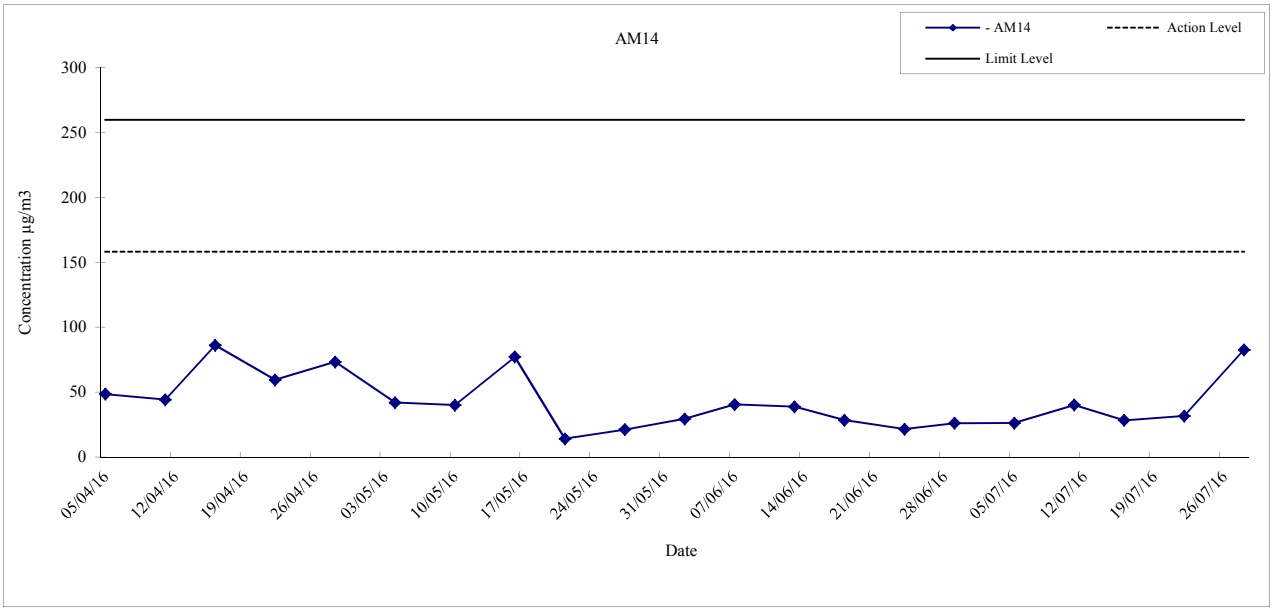
| | | | |
|---|---|---|---|
| MTR | Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link<br>**Graphical Presentation of 24-hour TSP Monitoring Result for Location AM9 and AM10** | **Date** | **2016** |
| | | **APPENDIX** | **F** |



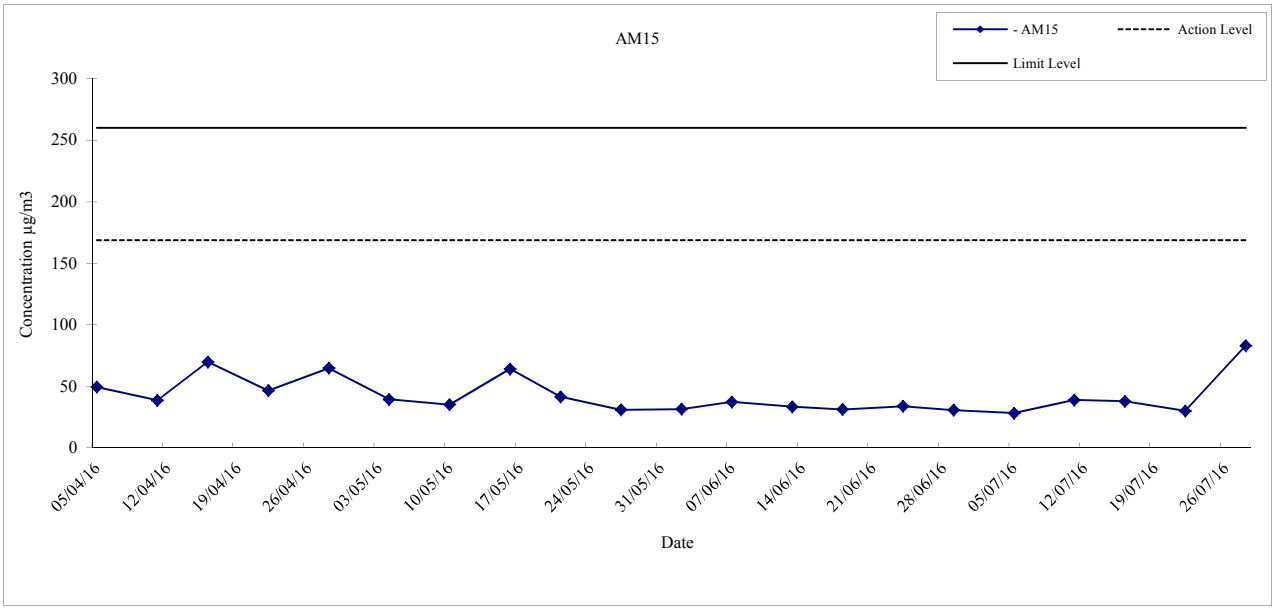



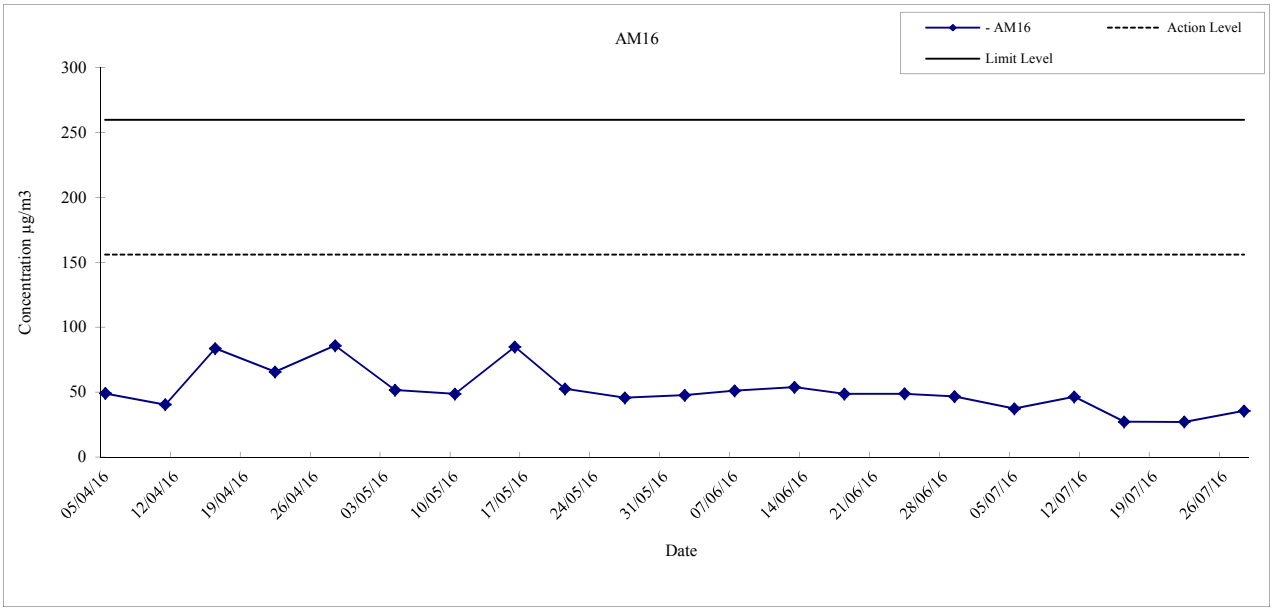

| | | | |
|---|---|---|---|
| MTR | Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link<br>**Graphical Presentation of 24-hour TSP**<br>**Monitoring Result for Location AM11 and AM12** | **Date** | **2016** |
| | | **APPENDIX** | **F** |



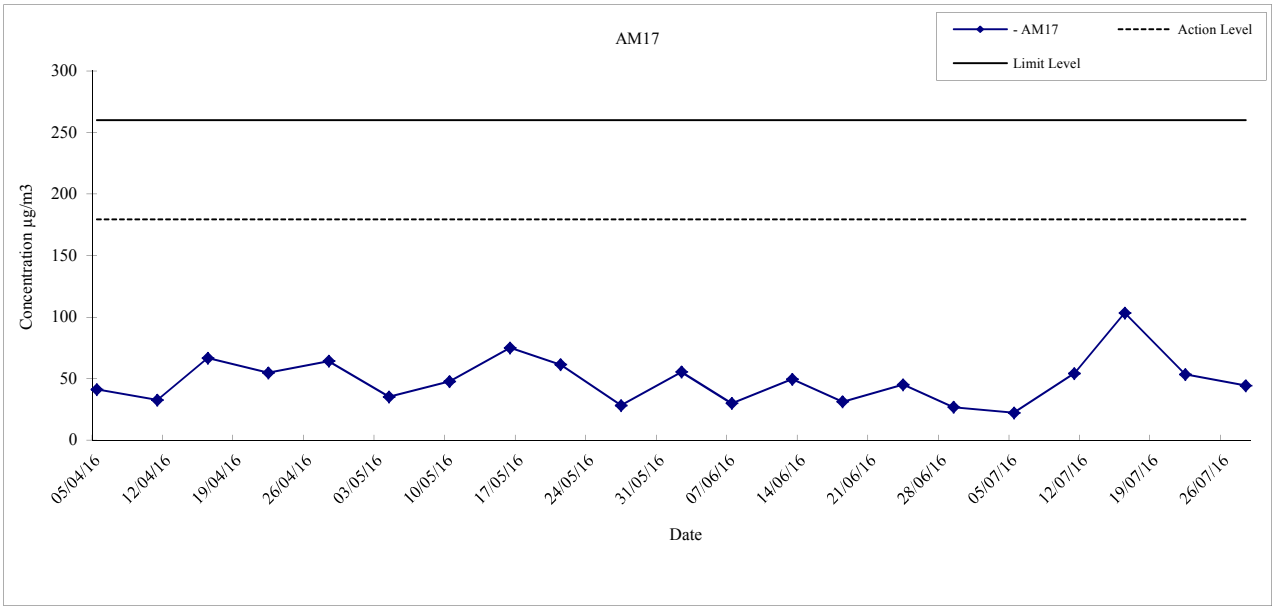




| | | | |
|---|---|---|---|
| MTR | Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link<br>**Graphical Presentation of 24-hour TSP**<br>**Monitoring Result for Location AM13 and AM14** | **Date** | **2016** |
| | | **APPENDIX** | **F** |




| | | | |
|---|---|---|---|
| MTR | Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link<br>**Graphical Presentation of 24-hour TSP**<br>**Monitoring Result for Location AM15 and AM16** | **Date** | **2016** |
| | | **APPENDIX** | **F** |




| | | | |
|---|---|---|---|
| MTR | Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link<br>**Graphical Presentation of 24-hour TSP**<br>**Monitoring Result for Location AM17** | **Date** | **2016** |
| | | **APPENDIX** | **F** |

## APPENDIX F: Noise Monitoring Results

**- CN1**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| N/A | | | |
| | | | |
| | | | |
| | | | |
| | | | |

**- CN2**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| 2016-07-05 | 58 | 75 | N |
| 2016-07-12 | 60 | 75 | N |
| 2016-07-21 | 59 | 75 | N |
| 2016-07-27 | 59 | 75 | N |
| | | | |

**- CN3**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| 2016-07-05 | 58 | 75 | N |
| 2016-07-12 | 58 | 75 | N |
| 2016-07-21 | 50 | 75 | N |
| 2016-07-27 | 48 | 75 | N |
| | | | |

**- CN4**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| 2016-07-05 | 55 | 75 | N |
| 2016-07-12 | 58 | 75 | N |
| 2016-07-18 | 59 | 75 | N |
| 2016-07-27 | 57 | 75 | N |
| | | | |

**- CN5**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| 2016-07-05 | 64 | 75 | N |
| 2016-07-12 | 55 | 75 | N |
| 2016-07-21 | 61 | 75 | N |
| 2016-07-27 | 70 | 75 | N |
| | | | |

**- CN6**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| 2016-07-05 | 55 | 75 | N |
| 2016-07-12 | 61 | 75 | N |
| 2016-07-21 | 59 | 75 | N |
| 2016-07-27 | 60 | 75 | N |
| | | | |

**- CN7**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| 2016-07-05 | 60 | 75 | N |
| 2016-07-12 | 57 | 75 | N |
| 2016-07-21 | 56 | 75 | N |
| 2016-07-27 | 61 | 75 | N |
| | | | |

**- CN8**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| 2016-07-07 | 68 | 75 | N |
| 2016-07-12 | 70 | 75 | N |
| 2016-07-21 | 66 | 75 | N |
| 2016-07-27 | 66 | 75 | N |
| | | | |

**- CN9**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| 2016-07-05 | 61 | 75 | N |
| 2016-07-12 | 58 | 75 | N |
| 2016-07-21 | 57 | 75 | N |
| 2016-07-27 | 58 | 75 | N |
| | | | |

**- CN10**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| 2016-07-05 | 57 | 75 | N |
| 2016-07-12 | 45 | 75 | N |
| 2016-07-21 | 51 | 75 | N |
| 2016-07-27 | 55 | 75 | N |
| | | | |

**- CN11**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| 2016-07-05 | 65 | 75 | N |
| 2016-07-12 | 60 | 75 | N |
| 2016-07-21 | 62 | 75 | N |
| 2016-07-27 | 67 | 75 | N |
| | | | |

**- CN12**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| 2016-07-05 | 54 | 75 | N |
| 2016-07-12 | 55 | 75 | N |
| 2016-07-19 | 56 | 75 | N |
| 2016-07-27 | 57 | 75 | N |
| | | | |

Note:
- Impact monitoring at No. 142 Mai Po San Tsuen (CN 1) had been temporarily suspended since December 2012 due to house removal. Monitoring at this location will be resumed when an alternative location is determined.

## APPENDIX F: Noise Monitoring Results

**- CN13**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| 2016-07-05 | 60 | 75 | N |
| 2016-07-12 | 62 | 75 | N |
| 2016-07-21 | 53 | 75 | N |
| 2016-07-25 | 54 | 75 | N |
| | | | |

**- CN14**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| 2016-07-05 | 54 | 75 | N |
| 2016-07-12 | 55 | 75 | N |
| 2016-07-19 | 55 | 75 | N |
| 2016-07-27 | 56 | 75 | N |
| | | | |

**- CN15**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| 2016-07-05 | 64 | 75 | N |
| 2016-07-12 | 63 | 75 | N |
| 2016-07-21 | 68 | 75 | N |
| 2016-07-27 | 63 | 75 | N |
| | | | |

**- CN16**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| 2016-07-04 | 54 | 75 | N |
| 2016-07-12 | 75 | 75 | N |
| 2016-07-21 | 58 | 75 | N |
| 2016-07-27 | 63 | 75 | N |
| | | | |

**- CN18**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| 2016-07-05 | 65 | 75 | N |
| 2016-07-12 | 64 | 75 | N |
| 2016-07-21 | 68 | 75 | N |
| 2016-07-27 | 67 | 75 | N |
| | | | |

**- CN19**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| 2016-07-05 | 66 | 75 | N |
| 2016-07-12 | 67 | 75 | N |
| 2016-07-21 | 67 | 75 | N |
| 2016-07-26 | 67 | 75 | N |
| | | | |

**- CN20**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| 2016-07-05 | 70 | 70 | N |
| 2016-07-12 | 70 | 70 | N |
| 2016-07-19 | 69 | 70 | N |
| 2016-07-27 | 70 | 70 | N |
| | | | |

**- CN21**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| 2016-07-05 | 69 | 70 | N |
| 2016-07-12 | 67 | 70 | N |
| 2016-07-21 | 68 | 70 | N |
| 2016-07-27 | 67 | 70 | N |
| | | | |

**- CN22**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| 2016-07-05 | 74 | 75 | N |
| 2016-07-12 | 74 | 75 | N |
| 2016-07-21 | 74 | 75 | N |
| 2016-07-26 | 74 | 75 | N |
| | | | |

**- CN23**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| N/A | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Note:

- Impact monitoring at Tsuen Wan Lutheran School (CN 17) had been temporarily suspended since December 2010 due to school closure. Monitoring at this location will be resumed subject to confirmation of school operation or other noise sensitive use at CN 17.
- Due to completion of all works at CN23, monitoring at HKIVE Haking Wong Waterfront Annex (CN 23) has been suspended from March 2015.
- A correction factor (-9 dB(A)) has been applied at CN19 to take into account the noise barrier effect. The correction factor was agreed with IEC according to Section 3.11 of the EM&A Manual.
- Noise limit level of CN20, CN21, CN23, CN24, CN25, CN26 & CN29, which are school, is 70dB(A) on normal weekdays and 65dB(A) during examination period.

## APPENDIX F: Noise Monitoring Results

**- CN24**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| 2016-07-05 | 67 | 70 | N |
| 2016-07-12 | 66 | 70 | N |
| 2016-07-21 | 67 | 70 | N |
| 2016-07-27 | 65 | 70 | N |
| | | | |

**- CN25**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| 2016-07-05 | 69 | 70 | N |
| 2016-07-12 | 68 | 70 | N |
| 2016-07-18 | 68 | 70 | N |
| 2016-07-27 | 69 | 70 | N |
| | | | |

**- CN26**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| 2016-07-05 | 70 | 70 | N |
| 2016-07-12 | 70 | 70 | N |
| 2016-07-21 | 70 | 70 | N |
| 2016-07-27 | 70 | 70 | N |
| | | | |

**- CN27**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| N/A | | | |
| | | | |
| | | | |
| | | | |
| | | | |

**- CN28**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| 2016-07-05 | 53 | 75 | N |
| 2016-07-12 | 54 | 75 | N |
| 2016-07-19 | 53 | 75 | N |
| 2016-07-27 | 54 | 75 | N |
| | | | |

**- CN29**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| 2016-07-05 | 64 | 70 | N |
| 2016-07-12 | 68 | 70 | N |
| 2016-07-18 | 67 | 70 | N |
| 2016-07-27 | 67 | 70 | N |
| | | | |

**- CN30**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| 2016-07-05 | 66 | 75 | N |
| 2016-07-12 | 67 | 75 | N |
| 2016-07-21 | 65 | 75 | N |
| 2016-07-27 | 63 | 75 | N |
| | | | |

**- CN31**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| N/A | | | |
| | | | |
| | | | |
| | | | |
| | | | |

**- CN32**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| 2016-07-05 | 75 | 75 | N |
| 2016-07-15 | 74 | 75 | N |
| 2016-07-18 | 75 | 75 | N |
| 2016-07-27 | 74 | 75 | N |
| | | | |

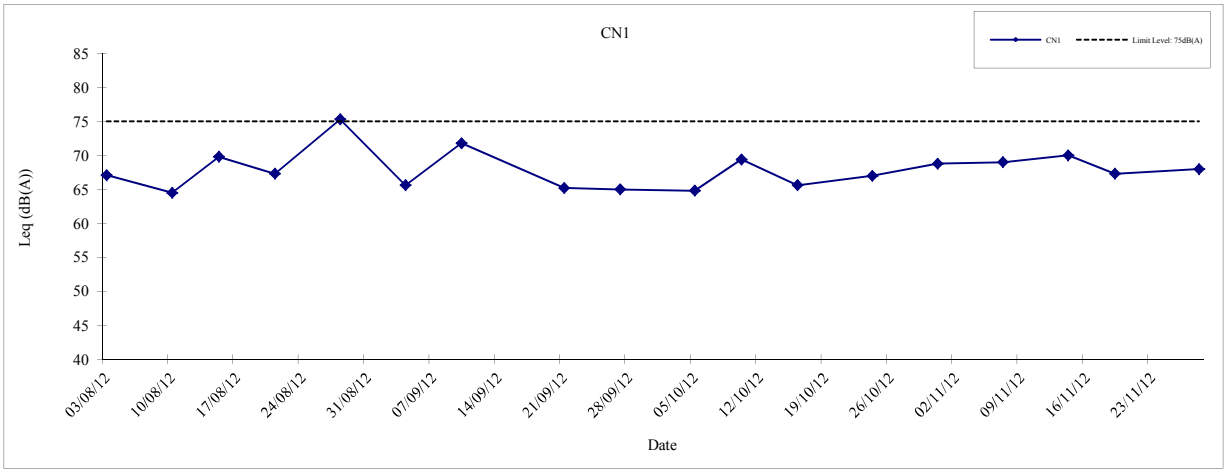
**- CN33**

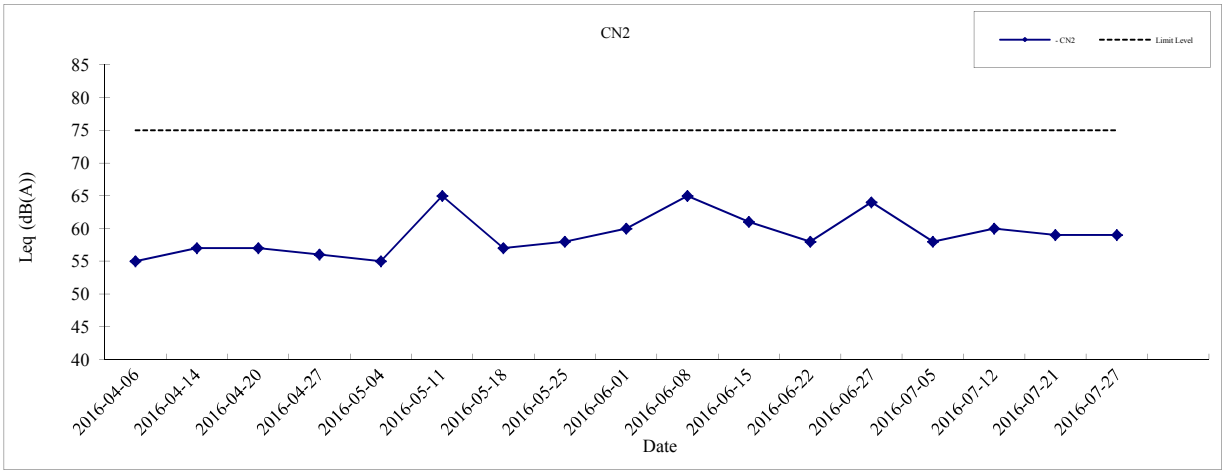
| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| 2016-07-05 | 73 | 75 | N |
| 2016-07-15 | 75 | 75 | N |
| 2016-07-18 | 75 | 75 | N |
| 2016-07-27 | 75 | 75 | N |
| | | | |

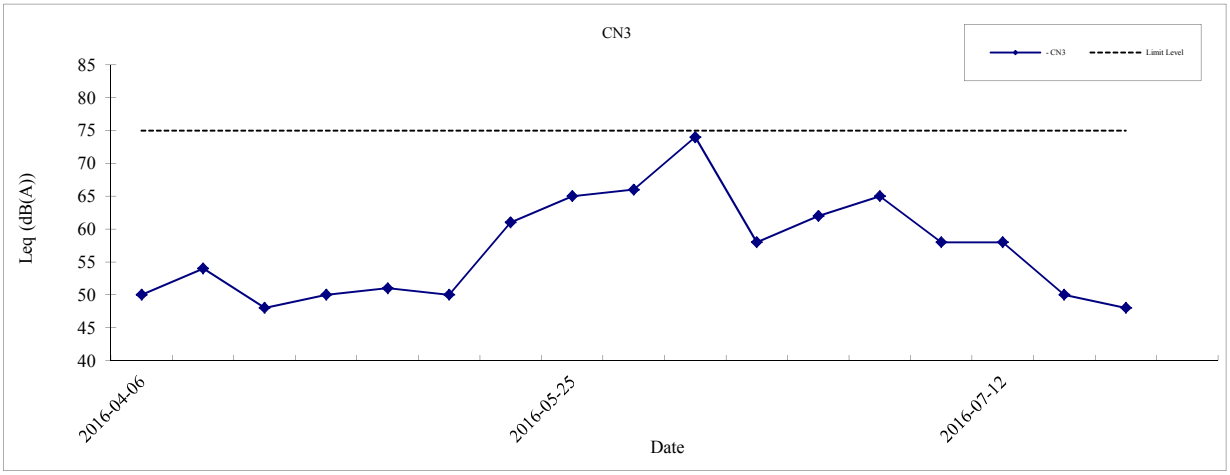
**- CN34**

| Date | Noise Monitoring Results | Limit Level | Exceedance? |
|---|---|---|---|
| | Leq, dB(A) | Leq, dB(A) | |
| 2016-07-05 | 72 | 75 | N |
| 2016-07-12 | 71 | 75 | N |
| 2016-07-21 | 74 | 75 | N |
| 2016-07-27 | 72 | 75 | N |
| | | | |

Note:
- Noise limit level of CN21, CN23, CN24, CN25, CN26 & CN29, which are school, is 70dB(A) on normal weekdays and 65dB(A) during examination period.
- Due to completion of works in the vicinity at CN27, monitoring at Nam Cheong Estate (CN 27) has be suspended from September 2015.
- Impact monitoring at Tower 6, Sorrento (CN31) had been temporarily suspended since end of August 2014 due to objection from the OC of Sorrento in August 2014. Monitoring at this location would be resumed when an alternative location is determined.

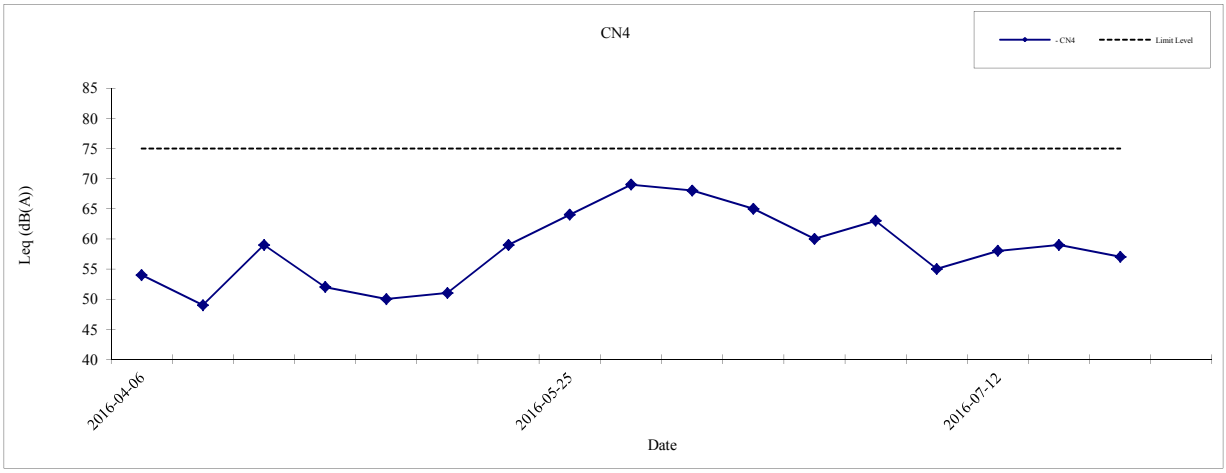


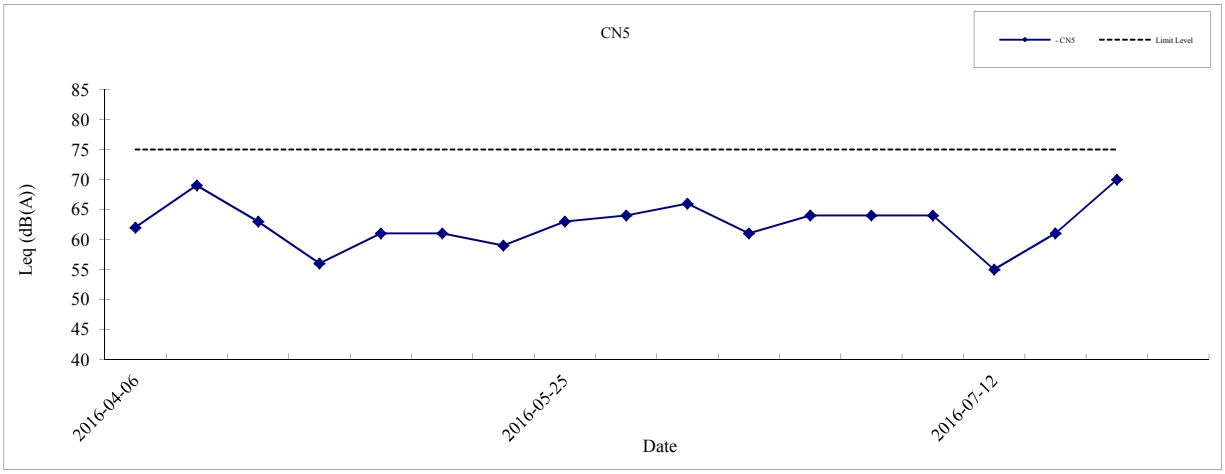



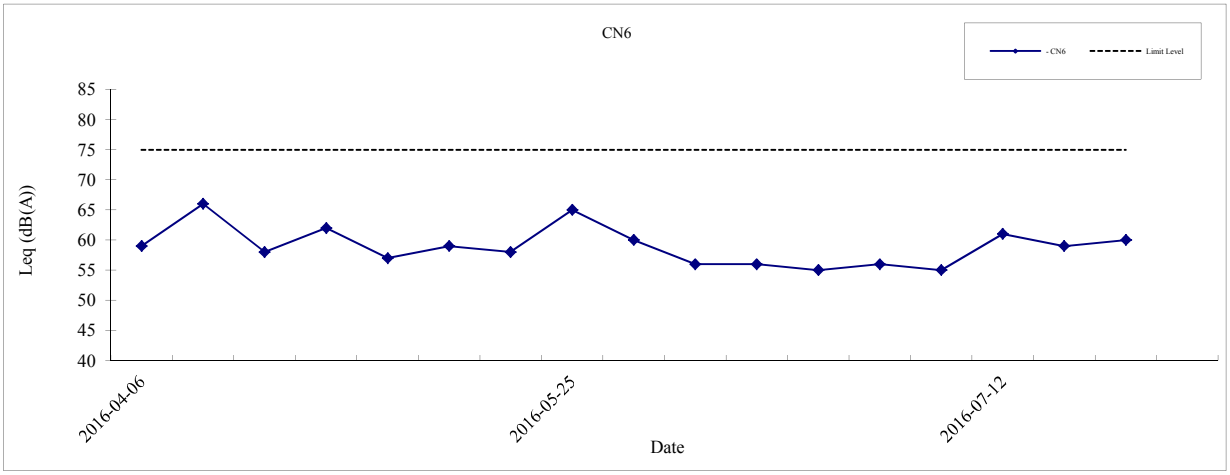




Note - Impact monitoring at No. 142 Mai Po San Tsuen (CN 1) had been temporarily suspended since December 2012 due to house removal. Monitoring at this location will be resumed when an alternative location is determined.

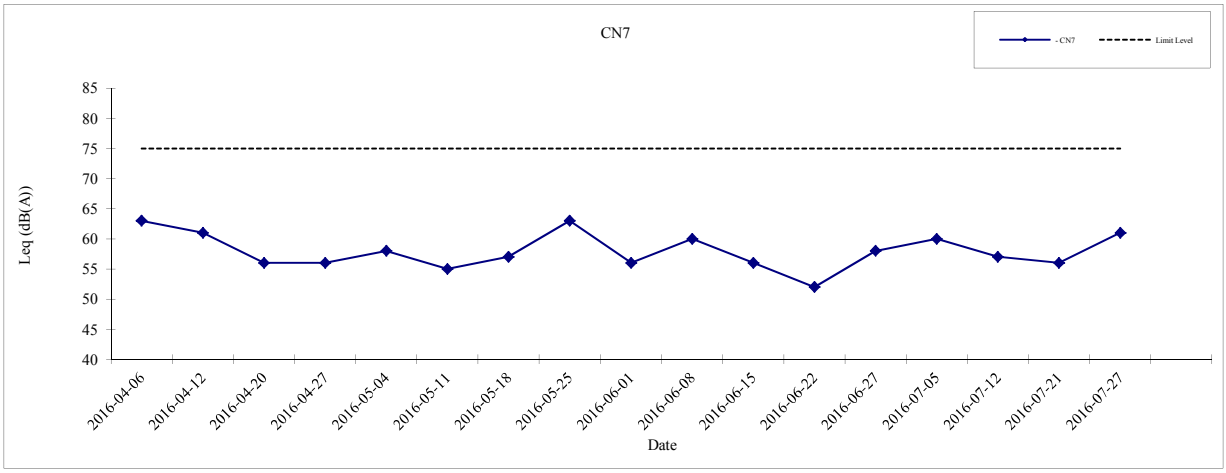
| | | | |
|---|---|---|---|
| MTR | Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link<br>**Graphical Presentation of Noise**<br>**Monitoring Results for Location CN1, CN2 and CN3** | **Date** | **2016** |
| | | **APPENDIX** | **F** |

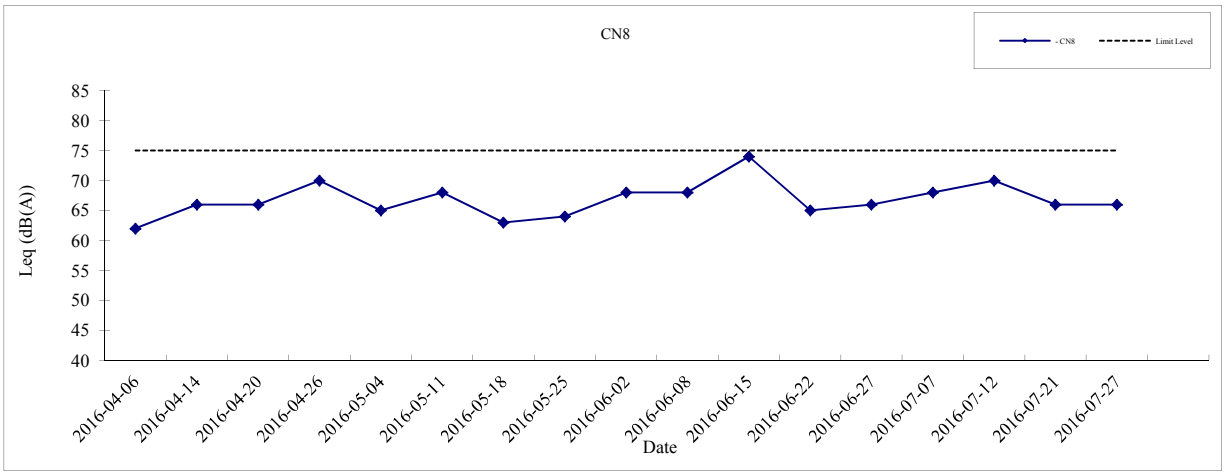


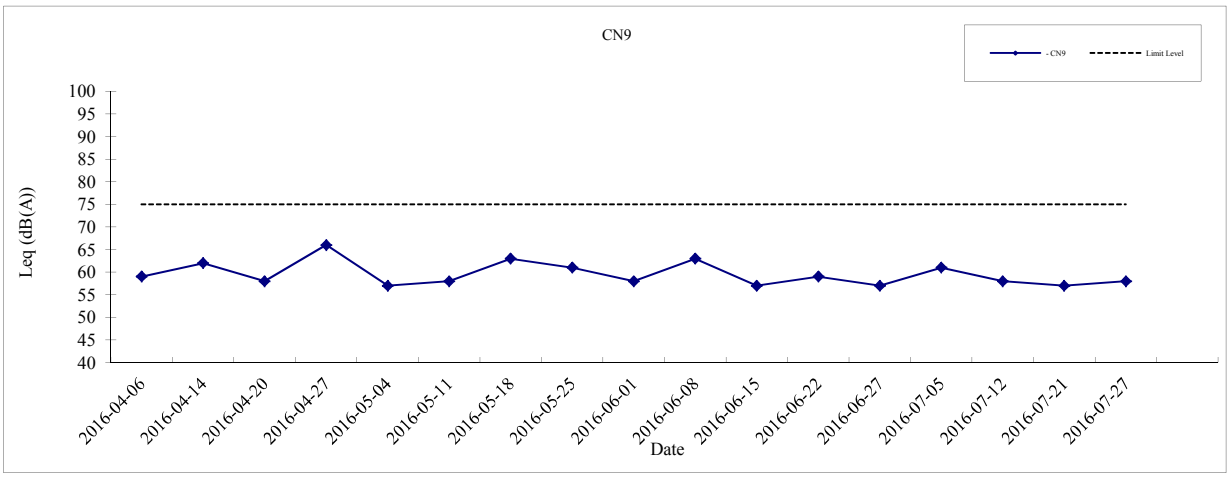



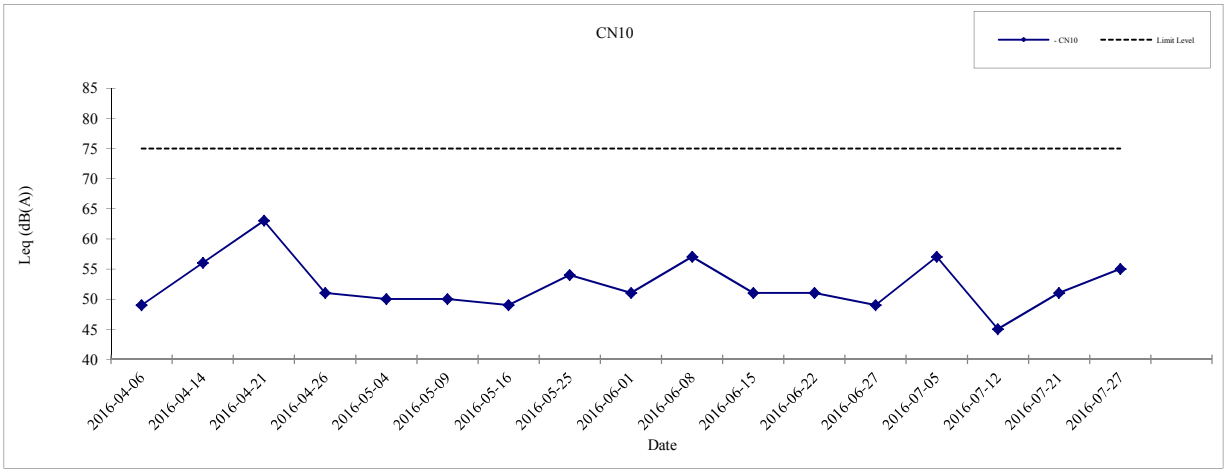

| | | | |
|---|---|---|---|
| MTR | Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link<br>**Graphical Presentation of Noise**<br>**Monitoring Results for Location CN4, CN5 and CN6** | **Date** | **2016** |
| | | **APPENDIX** | **F** |

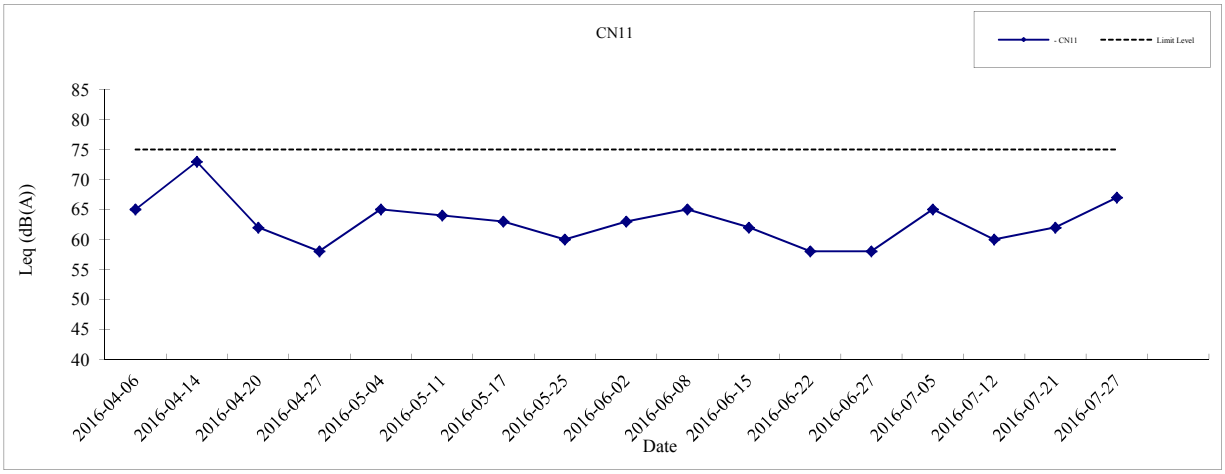


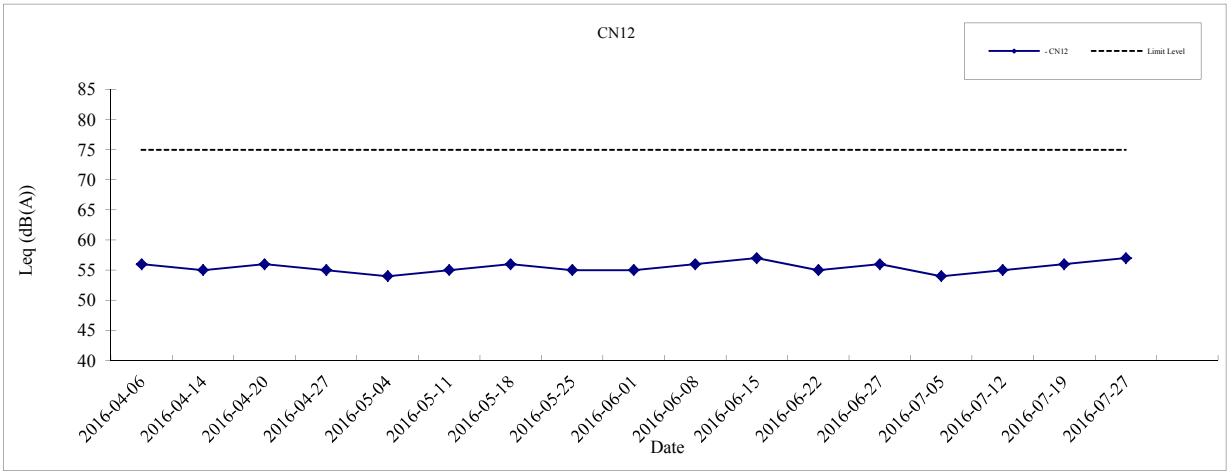



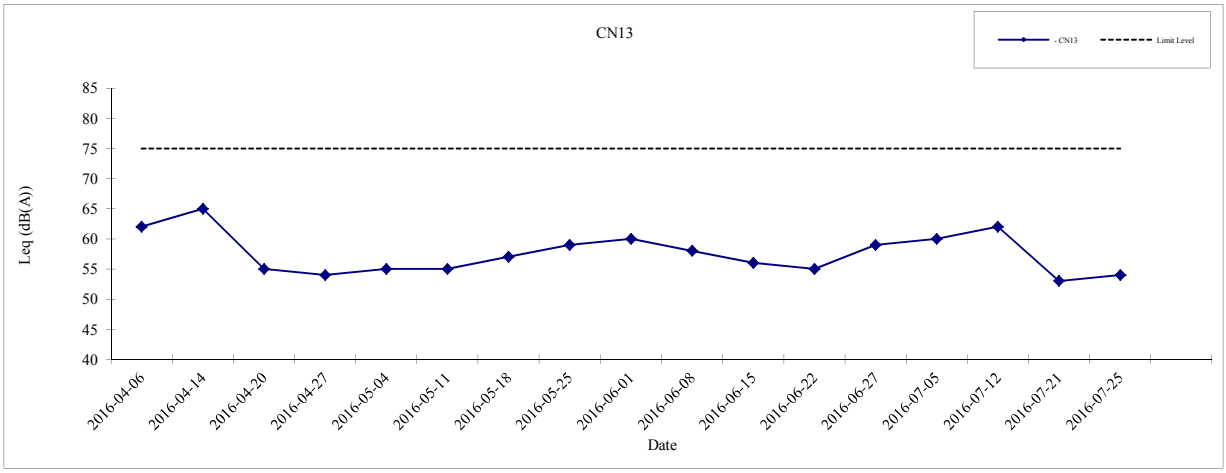

| | | | |
|---|---|---|---|
| MTR | Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link<br>**Graphical Presentation of Noise**<br>**Monitoring Results for Location CN7, CN8 and CN9** | **Date** | **2016** |
| | | **APPENDIX** | **F** |

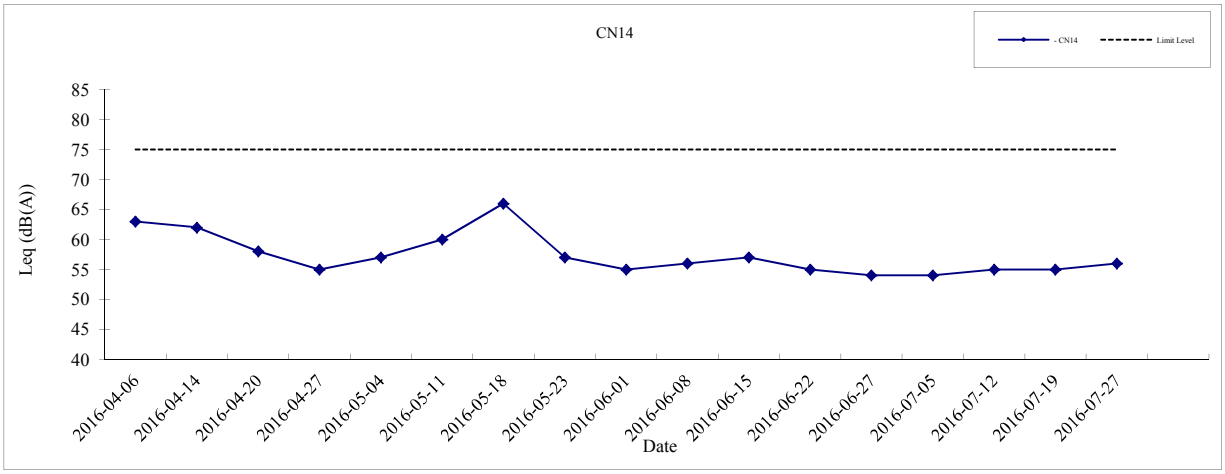


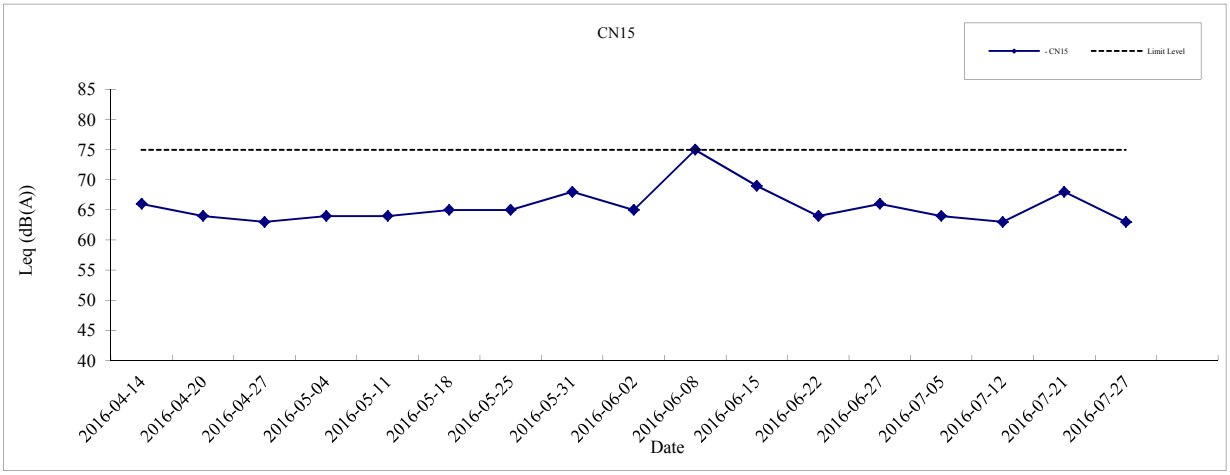



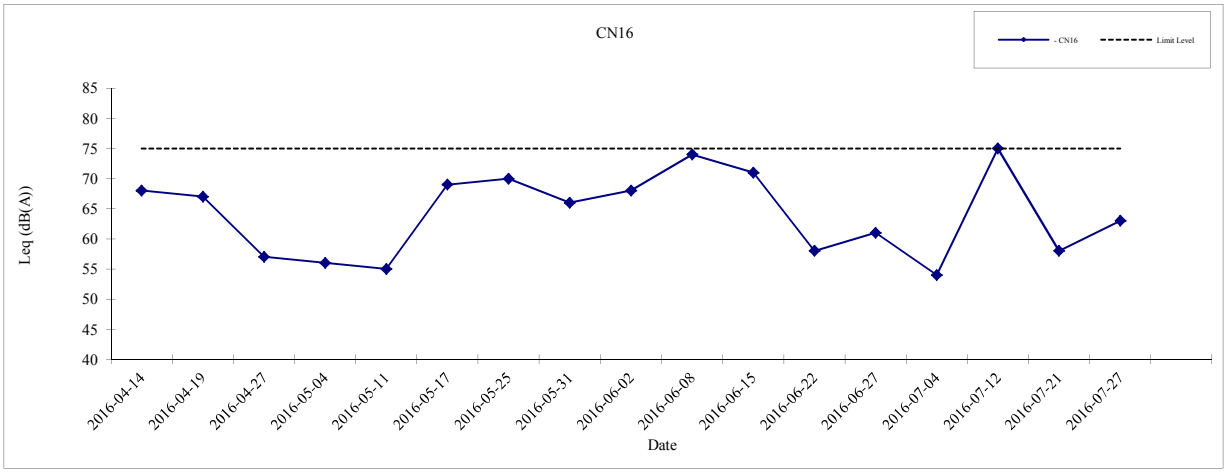

| | | | |
|---|---|---|---|
| MTR | Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link<br>**Graphical Presentation of Noise**<br>**Monitoring Results for Location CN10, C11 and CN12** | **Date** | **2016** |
| | | **APPENDIX** | **F** |

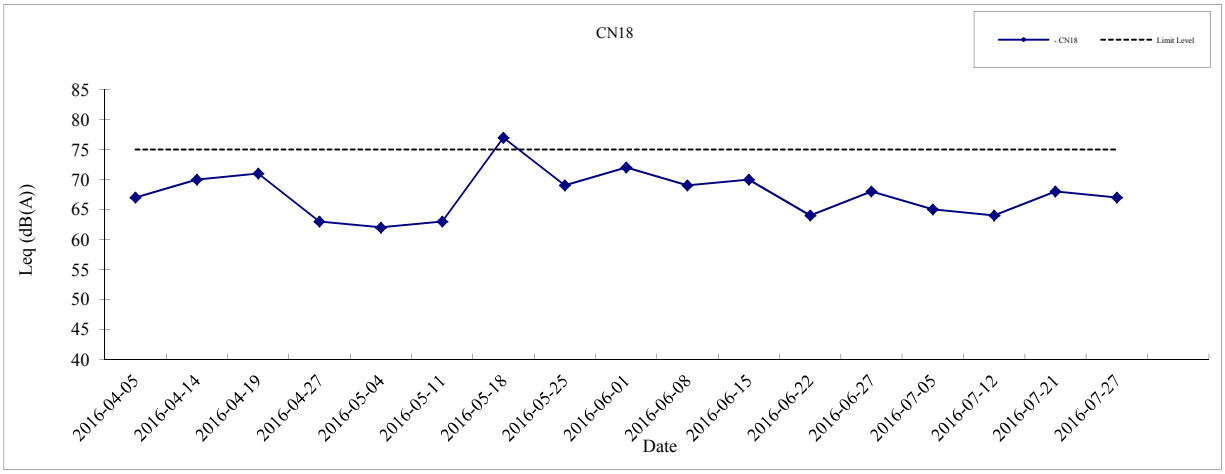


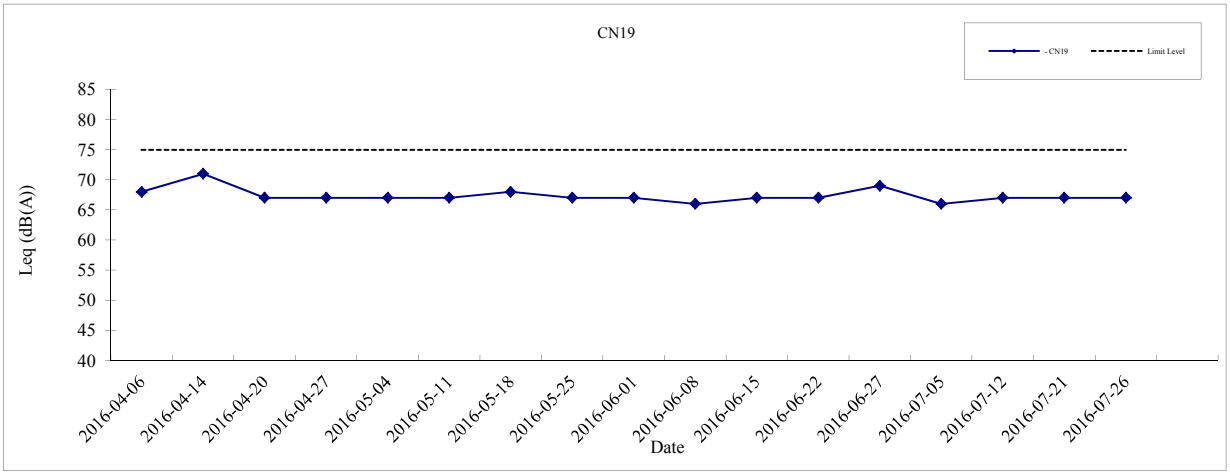



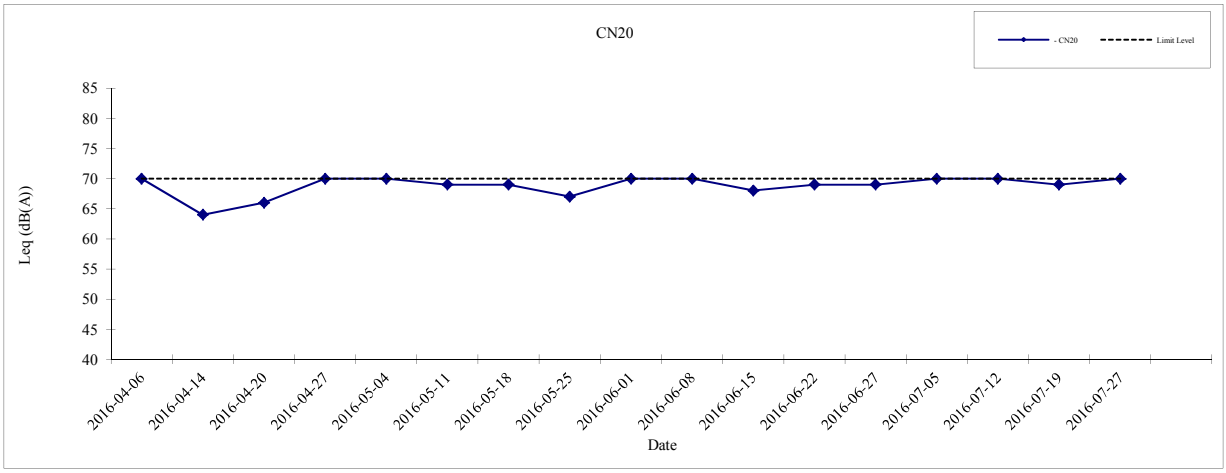

| | | | |
|---|---|---|---|
| MTR | Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link<br>**Graphical Presentation of Noise**<br>**Monitoring Results for Location CN13, C14 and CN15** | **Date** | **2016** |
| | | **APPENDIX** | **F** |

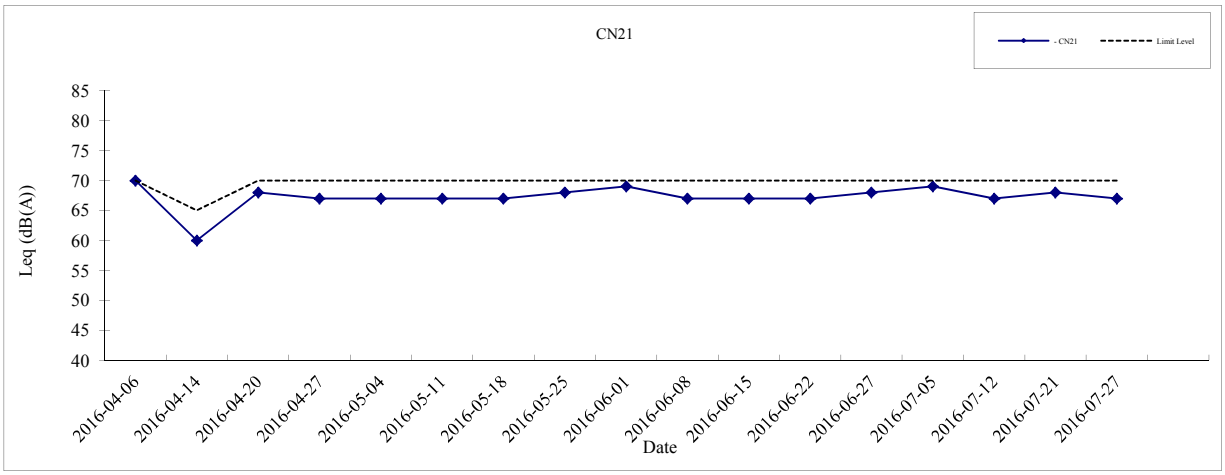


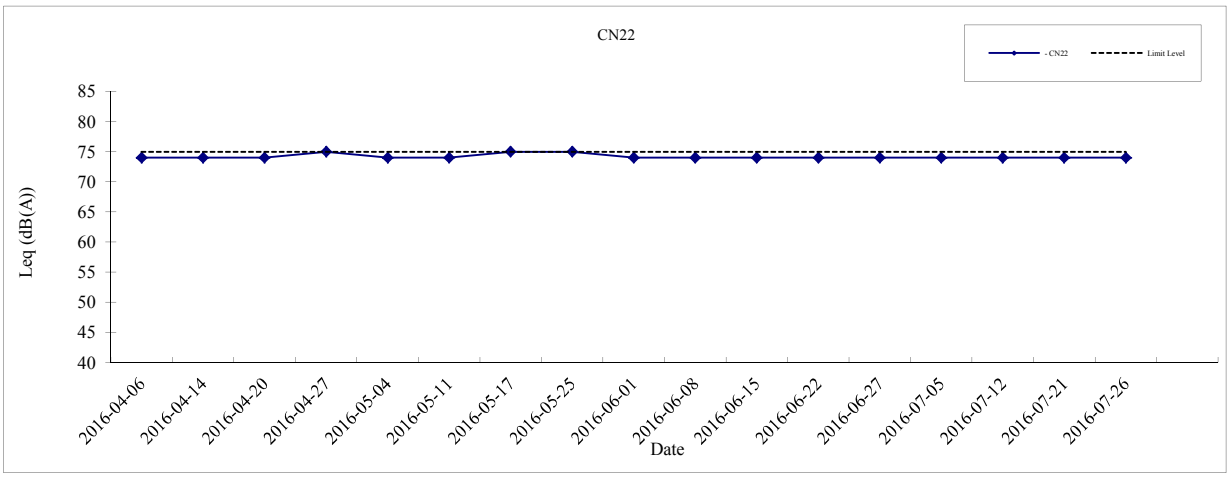



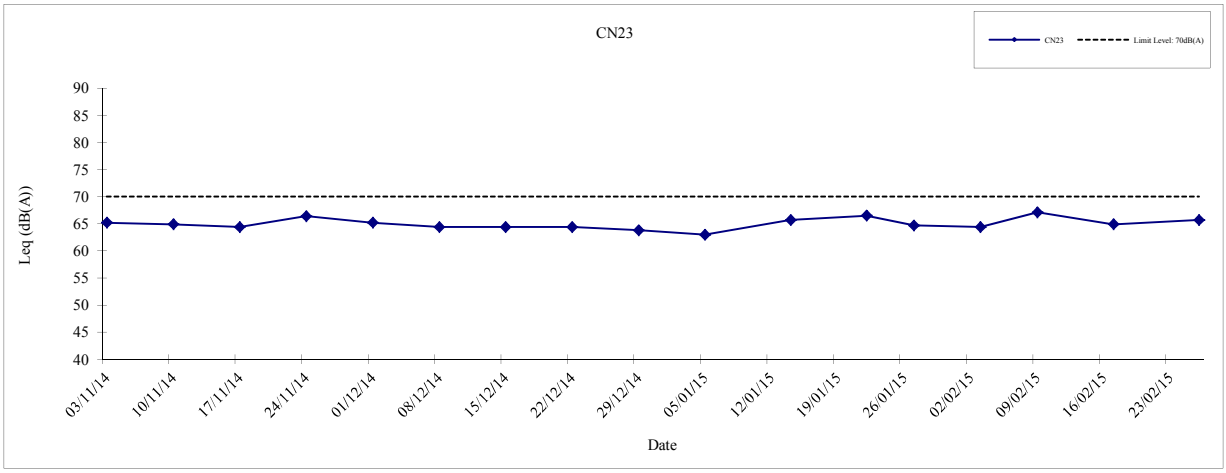

| | | | |
|---|---|---|---|
| MTR | Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link<br>**Graphical Presentation of Noise**<br>**Monitoring Results for Location CN16, C18 and CN19** | **Date** | **2016** |
| | | **APPENDIX** | **F** |

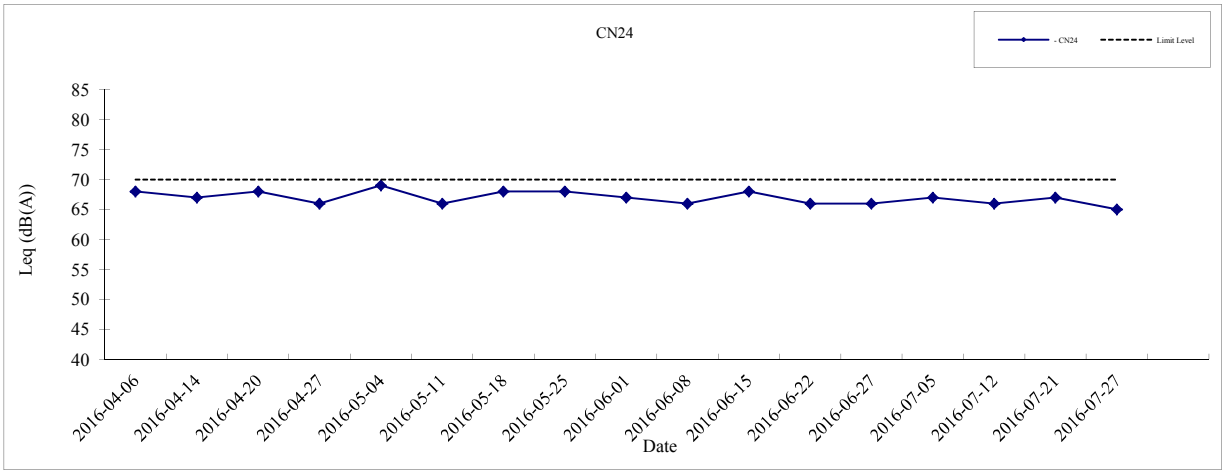


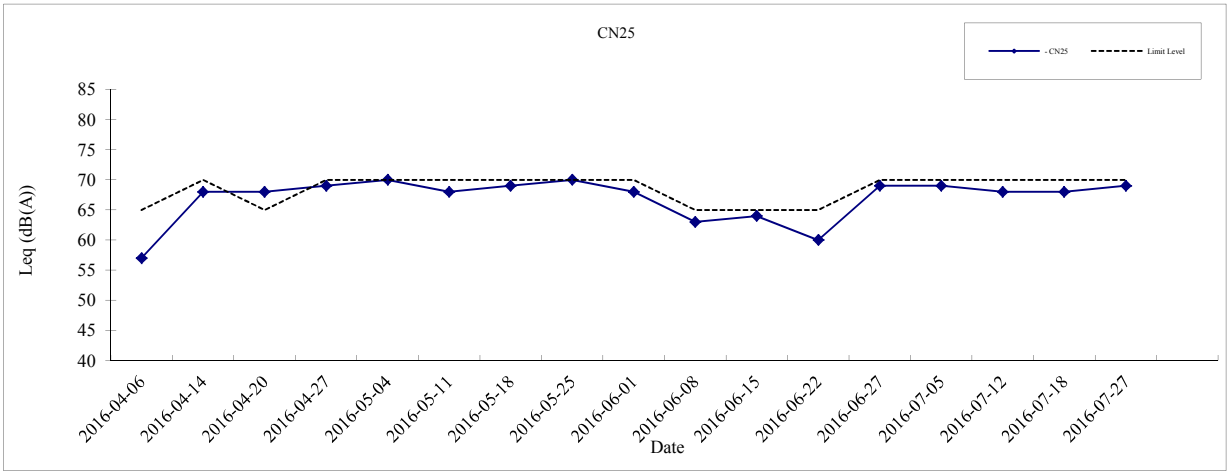




| | | | |
|---|---|---|---|
| MTR | Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link<br>**Graphical Presentation of Noise**<br>**Monitoring Results for Location CN20, CN21 and CN22** | **Date** | **2016** |
| | | **APPENDIX** | **F** |

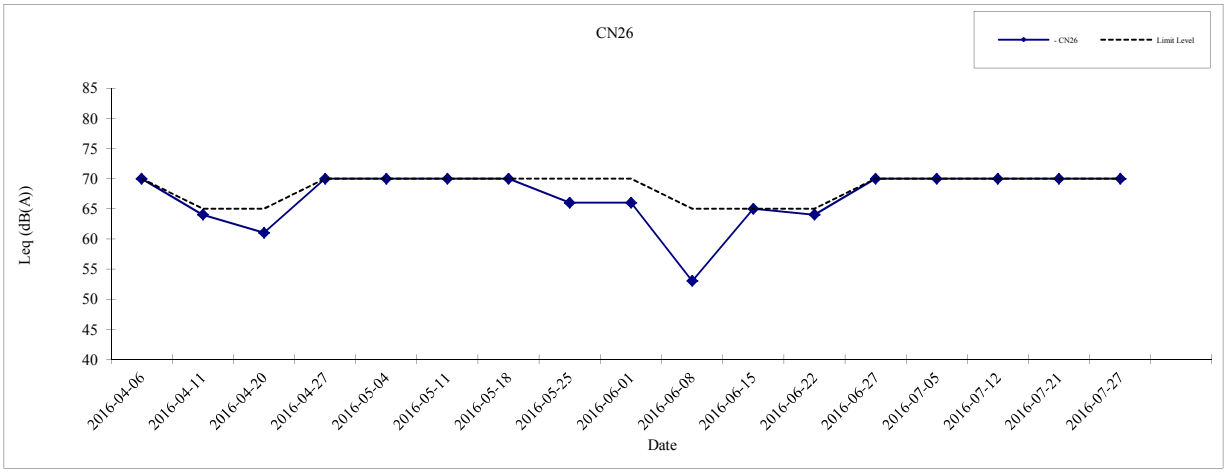


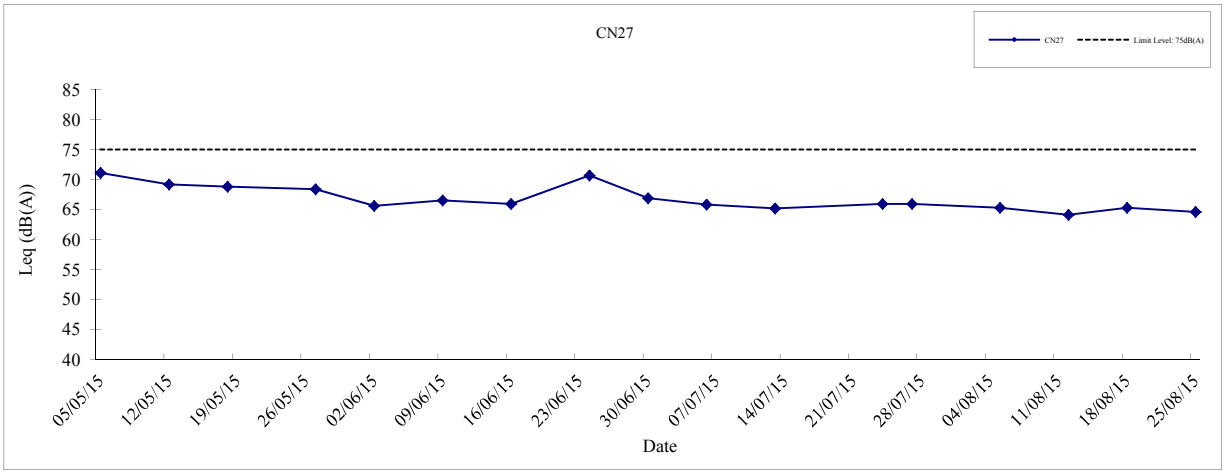



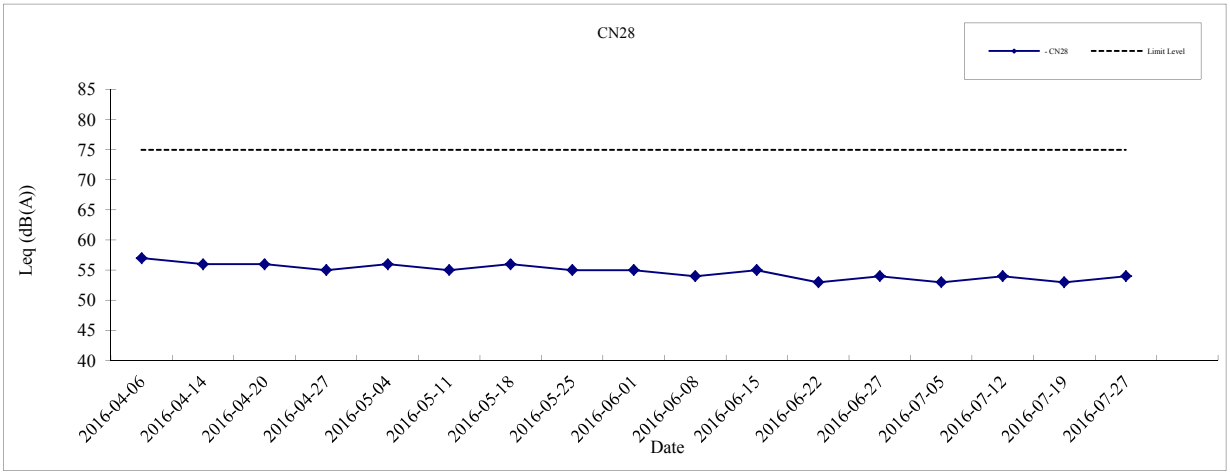




- Due to completion of all works at CN23, monitoring at HKIVE Haking Wong Waterfront Annex (CN 23) has been suspended from March 2015.
- Since the data collected at St Mary's Church Mok Hing Yiu College (CN25) 20 Apr 2016 are below the baseline noise levels, therefore the noise measurement is not considered as exceedance.

| | | | |
|---|---|---|---|
| MTR | Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link<br>**Graphical Presentation of Noise**<br>**Monitoring Results for Location CN23, CN24 and CN25** | **Date** | **2016** |
| | | **APPENDIX** | **F** |

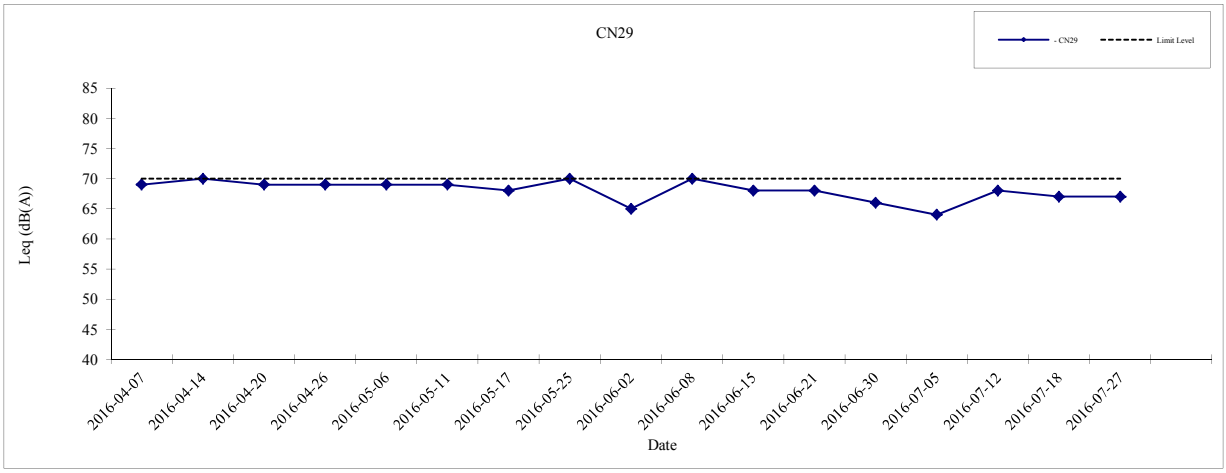


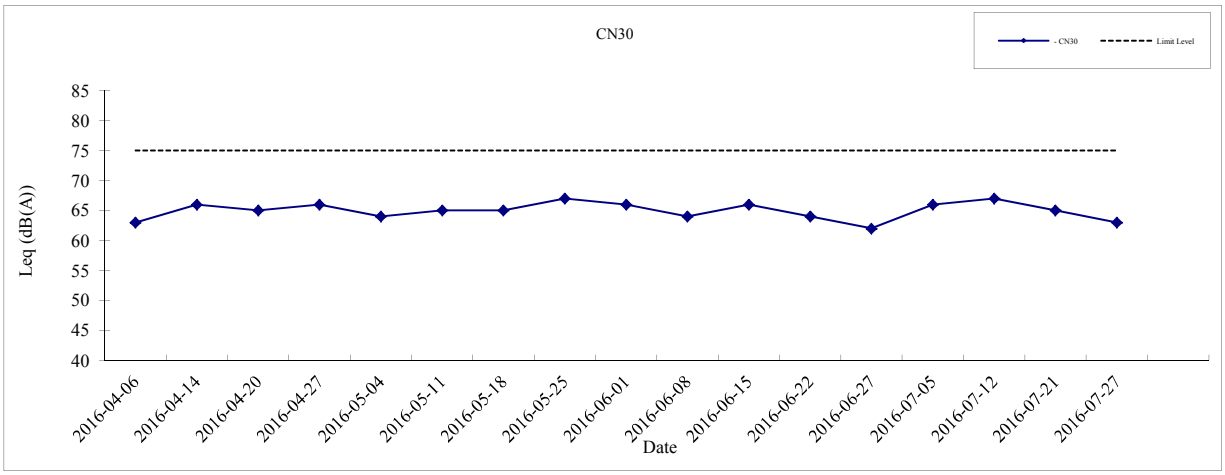



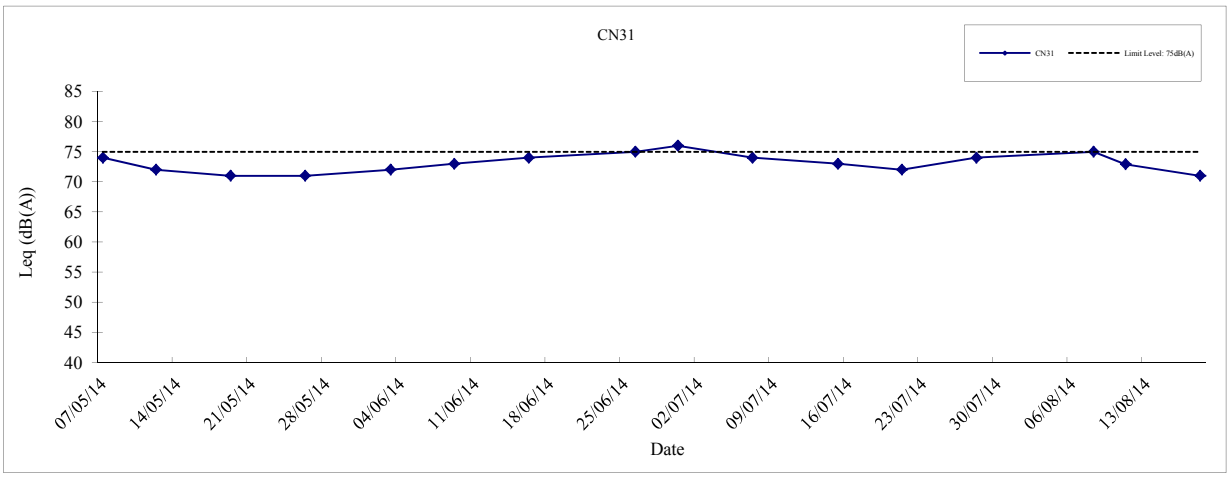




- Due to completion of works in the vicinity at CN27, monitoring at Nam Cheong Estate (CN 27) has be suspended from September 2015.

| | | | |
|---|---|---|---|
| MTR | Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link<br>**Graphical Presentation of Noise**<br>**Monitoring Results for Location CN26, CN27 and CN28** | **Date** | **2016** |
| | | **APPENDIX** | **F** |

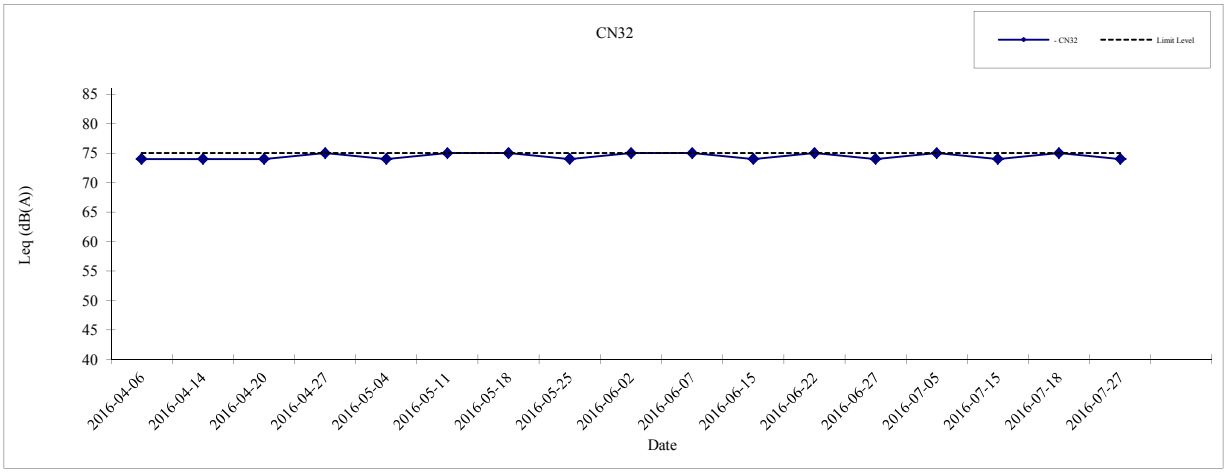


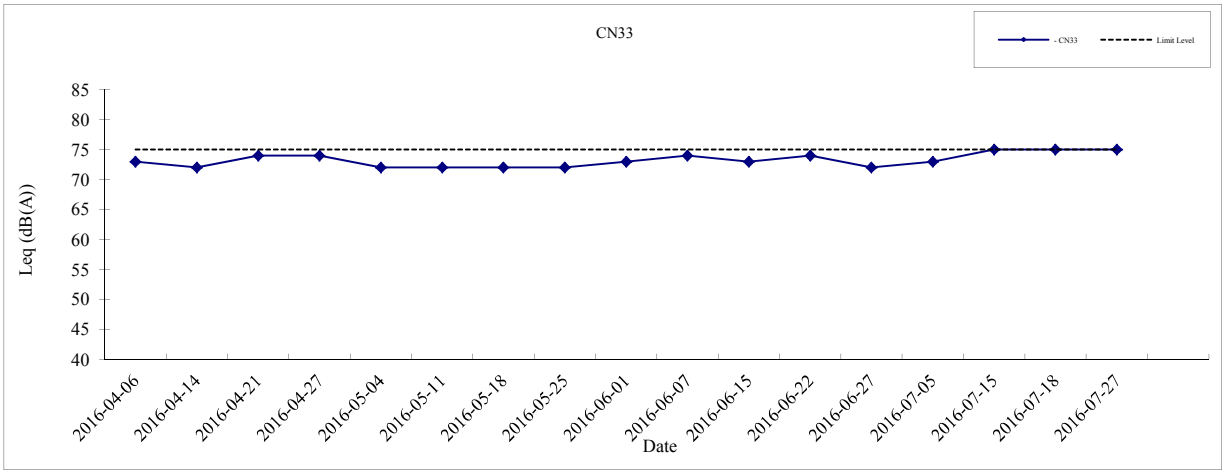



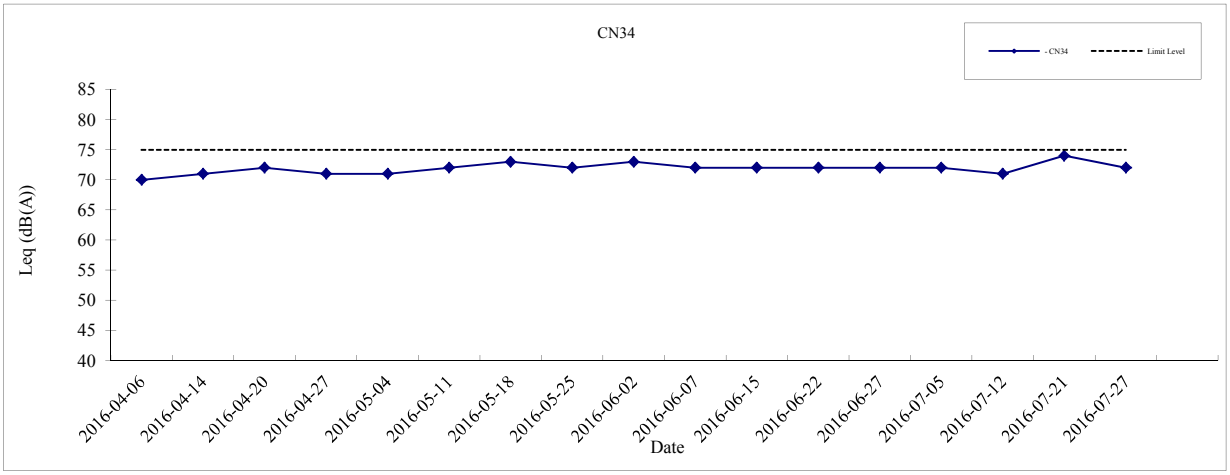




- Impact monitoring at Tower 6, Sorrento (CN31) had been temporarily suspended since end of August 2014 due to objection from the OC of Sorrento in August 2014. Monitoring at this location would be resumed when an alternative location is determined.

| | | | |
|---|---|---|---|
| MTR | Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link<br>**Graphical Presentation of Noise**<br>**Monitoring Results for Location CN29, CN30 and CN31** | **Date** | **2016** |
| | | **APPENDIX** | **F** |




| | | | |
|---|---|---|---|
| MTR | Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link<br>**Graphical Presentation of Noise**<br>**Monitoring Results for Location CN32, CN33 and CN34** | **Date** | **2016** |
| | | **APPENDIX** | **F** |

# Appendix G

# Bird Species and Abundance Recorded during Avifauna Survey

**Appendix G Bird Species and Abundance Recorded during the Avifauna Monitoring in July 2016**

**Works Area: MPV**
**Survey Site: MPV-1**
**Survey Date: 15 July 2016**

| Common Name [1] | Chinese Name | Principal Status [2] | Point Count Location | | | | | | | | | | | | Sub-total | Walk Transect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | MPV-1/P1 | MPV-1/P2 | MPV-1/P3 | MPV-1/P4 | MPV-1/P5 | MPV-1/P6 | MPV-1/P7 | MPV-1/P8 | MPV-1/P9 | MPV-1/P10 | MPV-1/P11 | MPV-1/P12 | | |
| **Little Grebe** | 小鸊鹈 | P | | | 6 | 3 | | | | 6 | | 1 | | | 16 | |
| **Great Egret** | 大白鷺 | P | | 3 | 2 | 2 | 10 | 6 | | | | 1 | | | 24 | √ |
| **Little Egret** | 小白鷺 | P | 2 | | 4 | | 3 | 1 | 3 | 4 | | 1 | | | 18 | √ |
| **Chinese Pond Heron** | 池鷺 | P | 4 | | 4 | 3 | 2 | 2 | 2 | 3 | | 2 | | 1 | 23 | √ |
| **Black-crowned Night Heron** | 夜鷺 | P | 3 | 4 | | | | | | | | | | | 7 | √ |
| White-breasted Waterhen | 白胸苦惡鳥 | R | 2 | 1 | 2 | | | | 1 | 2 | | 1 | | | 9 | √ |
| Spotted Dove | 珠頸斑鳩 | R | 2 | | | | 2 | 1 | | 2 | | 2 | | 5 | 14 | √ |
| Greater Coucal | 褐翅鴉鵑 | R | | | | | | | | | | | | | 0 | √ |
| Pied Kingfisher | 斑魚狗 | R | | | 1 | | | | | | | | | | 1 | |
| Barn Swallow | 家燕 | SpM,Su | 1 | | 4 | | 3 | 2 | | 5 | 2 | 4 | | | 21 | √ |
| White Wagtail | 白鶺鴒 | W,R | | | | | | | | | | 2 | | | 2 | |
| Red-whiskered Bulbul | 紅耳鵯 | R | | | | | | | | | | | | 2 | 2 | √ |
| Chinese Bulbul | 白頭鵯 | R | | | | | | | | 2 | | 2 | | | 4 | √ |
| Long-tailed Shrike | 棕背伯勞 | R | | | | | | | | 1 | | | | 1 | 2 | |
| Oriental Magpie Robin | 鵲鴝 | R | 1 | | | | | | | 1 | | | | 2 | 4 | √ |
| Masked Laughingthrush | 黑臉噪鹛 | R | | | | | | | | | | | | | 0 | √ |
| Yellow-bellied Prinia | 黃腹山鶯 | R | | | 2 | | | | | 1 | | | | | 3 | √ |
| Plain Prinia | 純色山鶯 | R | | | 2 | | | | 1 | | | | | | 3 | √ |
| Japanese White-eye | 暗綠繡眼鳥 | R,?W | | | | | | | | | | | | | 0 | √ |
| Scaly-breasted Munia | 斑文鳥 | R | | | | | 1 | | | | | 3 | | | 4 | |
| Eurasian Tree Sparrow | 麻雀 | R | | | | | 3 | | | 3 | 1 | | 2 | | 9 | √ |
| Black-collared Starling | 黑領椋鳥 | R | | | 3 | | 1 | | | 1 | | 1 | 1 | | 7 | |
| White-shouldered Starling | 灰背椋鳥 | M,W,Su | | | | | 3 | | | | | | | | 3 | |
| Common Myna | 家八哥 | R | | | 3 | | | 3 | 10 | | | | | | 16 | √ |
| Crested Myna | 八哥 | R | 1 | | | | 2 | 3 | | 2 | | | | | 8 | √ |
| Black Drongo | 黑卷尾 | M,Su | | | | | | | | | | | | | 0 | √ |
| Common Magpie | 喜鵲 | R | 1 | 1 | | | | | | | | | | | 2 | |
| Azure-winged Magpie | 灰喜鵲 | Category E | | | | | | | | | | | | | 0 | √ |
| **No. of Birds at Each Point:** | | | **17** | **9** | **33** | **8** | **30** | **18** | **17** | **33** | **3** | **20** | **3** | **11** | | |
| **No. of Birds Recorded from Point Count:** | | | **202** | | | | | | | | | | | | | |
| **No. of Species Recorded from Point Count:** | | | **23** | | | | | | | | | | | | | |
| **Total No. of Species:** | | | **28** | | | | | | | | | | | | | |
| **Total No. of Species of Conservation Interest:** | | | **5** | | | | | | | | | | | | | |

Note:
(1) Species in bold represents Species of Conservation Interest.
(2) R=resident; Su=summer visitor; SpM=spring migrant; W=winter visitor; M=migrant; P=present all year; ?W=the extent of immigration in winter is unclear
[Principal status was assessed with reference to Carey *et al*. (2001): The Avifauna of Hong Kong]
* Category E: Species for which all published Hong Kong records are considered likely to relate to birds that have escaped or have been released from captivity and do not possess a Principal Status.

**Appendix G Bird Species and Abundance Recorded during the Avifauna Monitoring in July 2016**

**Works Area: Access road leading to TPP**
**Survey Site: TPP-1**
**Survey Date: 15 July 2016**

| Common Name [1] | Chinese Name | Principal Status [2] | Point Count Location | | | | | Sub-total | Walk Transect |
|---|---|---|---|---|---|---|---|---|---|
| | | | TPP-1/P1 | TPP-1/P2 | TPP-1/P3 | TPP-1/P4 | TPP-1/P5 | | |
| **Little Egret** | **小白鷺** | P | | | | | | 0 | √ |
| White-breasted Waterhen | 白胸苦惡鳥 | R | | 2 | 1 | | | 3 | |
| Spotted Dove | 珠頸斑鳩 | R | | | | 3 | 4 | 7 | |
| Common Koel | 噪鵑 | Su,R | | | | | | 0 | √ |
| Greater Coucal | 褐翅鴉鵑 | R | | | | | | 0 | √ |
| Barn Swallow | 家燕 | SpM,Su | | | | 2 | 2 | 4 | |
| Red-whiskered Bulbul | 紅耳鵯 | R | 2 | | 1 | 3 | 2 | 8 | √ |
| Chinese Bulbul | 白頭鵯 | R | | | | 1 | 1 | 2 | |
| Oriental Magpie Robin | 鵲鴝 | R | 1 | 2 | | 2 | 1 | 6 | |
| Long-tailed Shrike | 棕背伯勞 | R | | | 2 | | | 2 | |
| Masked Laughingthrush | 黑臉噪鶥 | R | | 3 | | 2 | | 5 | √ |
| Yellow-bellied Prinia | 黃腹山鶯鶯 | R | | | | | | 0 | √ |
| Japanese White-eye | 暗綠繡眼鳥 | R,?W | 1 | | | 1 | 2 | 4 | √ |
| Scaly-breasted Munia | 斑文鳥 | R | | | 4 | | | 4 | |
| Eurasian Tree Sparrow | 麻雀 | R | | 3 | | | | 3 | |
| Black-collared Starling | 黑領椋鳥 | R | | | 1 | | | 1 | √ |
| Common Myna | 家八哥 | R | | | 1 | | | 1 | |
| Crested Myna | 八哥 | R | | | | | 1 | 1 | √ |
| **No. of Birds at Each Point:** | | | **4** | **10** | **10** | **14** | **13** | | |
| **No. of Birds Recorded from Point Count:** | | | **51** | | | | | | |
| **No. of Species Recorded from Point Count:** | | | **14** | | | | | | |
| **Total No. of Species:** | | | **18** | | | | | | |
| **Total No. of Species of Conservation Interest:** | | | **1** | | | | | | |

Note:
(1) Species in bold represents Species of Conservation Interest.
(2) R=resident; SpM=spring migrant; Su=summer visitor; P=present all year; ?W=the extent of immigration in winter is unclear
[Principal status was assessed with reference to Carey *et al* . (2001): The Avifauna of Hong Kong]

**Appendix G Bird Species and Abundance Recorded during the Avifauna Monitoring in July 2016**

**Works Area: Access road leading to TPP**
**Survey Site: TPP-2**
**Survey Date: 15 July 2016**

| Common Name [1] | Chinese Name | Principal Status [2] | Point Count Location | | | | Sub-total | Walk Transect |
|---|---|---|---|---|---|---|---|---|
| | | | TPP-2/P1 | TPP-2/P2 | TPP-2/P3 | TPP-2/P4 | | |
| **Little Egret** | 小白**鷺** | P | | | | | 0 | √ |
| Little Ringed Plover | 金眶鴴(黑領鴴) | W,R | | 4 | 2 | | 6 | |
| Spotted Dove | 珠頸斑鳩 | R | 1 | | 3 | | 4 | √ |
| Common Koel | 噪鵑 | Su,R | | | | | 0 | √ |
| Barn Swallow | 家燕 | SpM,Su | | | | 2 | 2 | √ |
| White Wagtail | 白鶺鴒 | W,R | | 2 | 1 | | 3 | |
| Red-whiskered Bulbul | 紅耳鵯 | R | 2 | | 1 | 2 | 5 | √ |
| Chinese Bulbul | 白頭鵯 | R | | 3 | | | 3 | √ |
| Oriental Magpie Robin | 鵲鴝 | R | 2 | | 3 | 2 | 7 | |
| Masked Laughingthrush | 黑臉噪鶥 | R | | | | 2 | 2 | √ |
| Yellow-bellied Prinia | 黃腹山鶯鶯 | R | | | 1 | 1 | 2 | |
| Common Tailorbird | 長尾縫葉鶯 | R | | | | | 0 | √ |
| Japanese White-eye | 暗綠繡眼鳥 | R,?W | | | 3 | | 3 | |
| Scaly-breasted Munia | 斑文鳥 | R | 4 | | | | 4 | |
| Eurasian Tree Sparrow | 麻雀 | R | 8 | | | 4 | 12 | √ |
| Black-collared Starling | 黑領椋鳥 | R | | | | | 0 | √ |
| Crested Myna | 八哥 | R | | | | | 0 | √ |
| **No. of Birds at Each Point:** | | | **17** | **9** | **14** | **13** | | |
| **No. of Birds Recorded from Point Count:** | | | **53** | | | | | |
| **No. of Species Recorded from Point Count:** | | | **12** | | | | | |
| **Total No. of Species:** | | | **17** | | | | | |
| **Total No. of Species of Conservation Interest:** | | | **1** | | | | | |

Note:
(1) Species in bold represents Species of Conservation Interest.
(2) R=resident; SpM=spring migrant; Su=summer visitor; W=winter visitor; ?W=the extent of immigration in winter is unclear; P=present all year
[Principal status was assessed with reference to Carey *et al* . (2001): The Avifauna of Hong Kong]

## Appendix G Bird Species and Abundance Recorded during the Avifauna Monitoring in July 2016

**Work Area: Access road leading to TPP**
**Survey Site: TPP-3**
**Survey Date: 15 July 2016**

| Common Name | Chinese Name | Principal Status (1) | Point Count Location | | | Sub-total |
|---|---|---|---|---|---|---|
| | | | TPP-3/P1 | TPP-3/P2 | TPP-3/P3 | |
| Chinese Bulbul | 白頭鵯 | R | 1 | 2 | | 3 |
| Japanese White-eye | 暗綠繡眼鳥 | R,?W | 1 | 1 | | 2 |
| Eurasian Tree Sparrow | 麻雀 | R | 3 | 1 | | 4 |
| **No. of Birds at Each Point:** | | | **5** | **4** | **0** | |
| **No. of Birds Recorded from Point Count:** | | | **9** | | | |
| **No. of Species Recorded from Point Count:** | | | **3** | | | |
| **Total No. of Species:** | | | **3** | | | |
| **Total No. of Species of Conservation Interest:** | | | **0** | | | |

Note:
(1) R=resident; ?W=the extent of immigration in winter is unclear.
[Principal status was assessed with reference to Carey *et al* . (2001): The Avifauna of Hong Kong]

## Appendix G Bird Species and Abundance Recorded during the Avifauna Monitoring in July 2016

**Works Area: SSS / ERS**
**Survey Site: SSS-2a**
**Survey Date: 15 July 2016**

| Common Name | Chinese Name | Principal Status [(1)] | Point Count Location | | Sub-total |
|---|---|---|---|---|---|
| | | | SSS-2a/P1 | SSS-2a/P2 | |
| Spotted Dove | 珠頸斑鳩 | R | | 1 | 1 |
| Red-whiskered Bulbul | 紅耳鵯 | R | 2 | 1 | 3 |
| Oriental Magpie Robin | 鵲鴝 | R | | 1 | 1 |
| Japanese White-eye | 暗綠繡眼鳥 | R,?W | 2 | | 2 |
| Eurasian Tree Sparrow | 麻雀 | R | 2 | 2 | 4 |
| **No. of Birds at Each Point:** | | | **6** | **5** | |
| **No. of Birds Recorded from Point Count:** | | | **11** | | |
| **No. of Species Recorded from Point Count:** | | | **5** | | |
| **Total No. of Species:** | | | **5** | | |
| **Total No. of Species of Conservation Interest:** | | | **0** | | |

Note:
(1) R=resident; ?W=the extent of immigration in winter is unclear.
[Principal status was assessed with reference to Carey *et al*. (2001): The Avifauna of Hong Kong]

**Appendix G Bird Species and Abundance Recorded during the Avifauna Monitoring in July 2016**

**Works Area: SSS / ERS**
**Survey Site: SSS-3**
**Survey Date: 15 July 2016**

| Common Name [1] | Chinese Name | Principal Status [2] | Point Count Location | | | | | | | | | | | | Sub-total | Walk Transect |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | SSS-3/P1 | SSS-3/P2 | SSS-3/P3 | SSS-3/P4 | SSS-3/P5 | SSS-3/P6 | SSS-3/P7 | SSS-3/P8 | SSS-3/P9 | SSS-3/P10 | SSS-3/P11 | SSS-3/P12 | | |
| **Little Egret** | **小白鷺** | P | | | | 1 | | | | | | | | | 1 | √ |
| **Chinese Pond Heron** | **池鷺** | P | | | | | | | | | | | | | 0 | √ |
| White-breasted Waterhen | 白胸苦惡鳥 | R | | | | | | | | | | | | | 0 | √ |
| Spotted Dove | 珠頸斑鳩 | R | 1 | 2 | | 1 | 2 | | | | | | 4 | 4 | 14 | √ |
| Plaintive Cuckoo | 八聲杜鵑 | Su | | | | | | | | | | | | 1 | 1 | |
| Common Koel | 噪鵑 | Su,R | | | | | | | | | | | | | 0 | √ |
| Greater Coucal | 褐翅鴉鵑 | R | | | | | | | | | | | | | 0 | √ |
| Little Swift | 小白腰雨燕 | R,SpM | | | | | | | | | | | 2 | | 2 | √ |
| Barn Swallow | 家燕 | SpM,Su | | | | | | | | | | 2 | 3 | 5 | 10 | √ |
| White Wagtail | 白鶺鴒 | W,R | | | 2 | | 1 | | | | | | | | 3 | √ |
| Red-whiskered Bulbul | 紅耳鵯 | R | | 4 | 3 | 2 | 2 | 2 | 3 | 3 | 3 | | 4 | | 26 | √ |
| Chinese Bulbul | 白頭鵯 | R | | | | 4 | 2 | | | | 3 | | 3 | | 12 | √ |
| Oriental Magpie Robin | 鵲鴝 | R | | | | 1 | 1 | 1 | 1 | | 1 | | | | 5 | √ |
| Masked Laughingthrush | 黑臉噪鸝 | R | | | 1 | | | | 3 | | 3 | | | | 7 | √ |
| Yellow-bellied Prinia | 黃腹山鶯 | R | | 1 | | | 1 | | 2 | 1 | 1 | | 1 | | 7 | √ |
| Common Tailorbird | 長尾縫葉鶯 | R | 1 | 1 | | 1 | 1 | 1 | | 1 | | | | | 6 | √ |
| Great Tit | 大山雀 | R | | 2 | | | | | | | | | | | 2 | |
| Fork-tailed Sunbird | 叉尾太陽鳥 | R | | | 1 | | | | | | | | | | 1 | √ |
| Japanese White-eye | 暗綠繡眼鳥 | R,?W | 1 | 3 | | | 3 | | 1 | 1 | 1 | | | | 10 | √ |
| Scaly-breasted Munia | 斑文鳥 | R | | | | | | | | | | | 4 | 2 | 6 | √ |
| Eurasian Tree Sparrow | 麻雀 | R | | | | 4 | | | | | | | | | 4 | √ |
| Black-collared Starling | 黑領椋鳥 | R | 2 | | 4 | 3 | | | 5 | 2 | 4 | 2 | | | 22 | √ |
| Common Myna | 家八哥 | R | | | | | | | | | | | | | 0 | √ |
| Crested Myna | 八哥 | R | | | 2 | | 2 | | | | | 1 | | 2 | 7 | √ |
| Black Drongo | 黑卷尾 | M,Su | | | | | | | | | 1 | | | | 1 | |
| **No. of Birds at Each Point:** | | | **5** | **13** | **13** | **17** | **15** | **4** | **15** | **8** | **17** | **5** | **21** | **14** | | |
| **No. of Birds Recorded from Point Count:** | | | **147** | | | | | | | | | | | | | |
| **No. of Species Recorded from Point Count:** | | | **20** | | | | | | | | | | | | | |
| **Total No. of Species:** | | | **25** | | | | | | | | | | | | | |
| **Total No. of Species of Conservation Interest:** | | | **2** | | | | | | | | | | | | | |

Note:
(1) Species in bold represents Species of Conservation Interest
(2) R=resident; SpM=spring migrant; Su=summer visitor; W=winter visitor; M=migrant; P=present all year; ?W=the extent of immigration in winter is unclear

**Appendix G Bird Species and Abundance Recorded during the Avifauna Monitoring in July 2016**

**Works Area: TUW and PHV**
**Survey Site: TUW-1**
**Survey Date: 15 July 2016**

| | Chinese Name | Principal Status (2) | Point Count Location | | | | | | | Sub-total | Walk Transect |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | TUW-1/P1 | TUW-1/P2 | TUW-1/P3 | TUW-1/P4 | TUW-1/P5 | TUW-1/P6 | TUW-1/P7 | | |
| **Little Egret** | 小白鷺 | P | | | 1 | | | | | 1 | √ |
| **Chinese Pond Heron** | 池鷺 | P | | | | 1 | | | | 1 | |
| White-breasted Waterhen | 白胸苦惡鳥 | R | | | | 1 | | | | 1 | |
| Spotted Dove | 珠頸斑鳩 | R | 3 | 2 | | 1 | | 2 | 4 | 12 | √ |
| Plaintive Cuckoo | 八聲杜鵑 | Su | | | | | | | | 0 | √ |
| Common Koel | 噪鵑 | Su,R | | | | | | | 1 | 1 | √ |
| Barn Swallow | 家燕 | SpM,Su | 10 | 2 | | 6 | 1 | 1 | 5 | 25 | |
| Red-whiskered Bulbul | 紅耳鵯 | R | 5 | 5 | 2 | 4 | 2 | | 2 | 20 | √ |
| Chinese Bulbul | 白頭鵯 | R | | | | | | | | 0 | √ |
| Oriental Magpie Robin | 鵲鴝 | R | 2 | 1 | 2 | | 1 | | 2 | 8 | √ |
| Masked Laughingthrush | 黑臉噪鸝 | R | 1 | 6 | | | | 4 | 2 | 13 | √ |
| Yellow-bellied Prinia | 黃腹山鷦鶯 | R | 2 | | | 2 | | | | 4 | √ |
| Common Tailorbird | 長尾縫葉鶯 | R | | | | | | 2 | 1 | 3 | √ |
| Great Tit | 大山雀 | R | 1 | | | | | | | 1 | |
| Japanese White-eye | 暗綠繡眼鳥 | R,?W | | 4 | 2 | | | | | 6 | √ |
| Scaly-breasted Munia | 斑文鳥 | R | | | | | | 4 | | 4 | |
| Eurasian Tree Sparrow | 麻雀 | R | 1 | 4 | | | | 6 | | 11 | √ |
| Black-collared Starling | 黑領椋鳥 | R | | 1 | | | 1 | 1 | 2 | 5 | |
| White-shouldered Starling | 灰背椋鳥 | M,W,Su | | | 1 | | | | | 1 | √ |
| Crested Myna | 八哥 | R | | 2 | | 4 | 1 | 3 | | 10 | √ |
| Black Drongo | 黑卷尾 | M,Su | 1 | | | | | | | 1 | √ |
| **No. of Birds at Each Point:** | | | **26** | **27** | **8** | **19** | **6** | **23** | **19** | | |
| **No. of Birds Recorded from Point Count:** | | | **128** | | | | | | | | |
| **No. of Species Recorded from Point Count:** | | | **19** | | | | | | | | |
| **Total No. of Species:** | | | **21** | | | | | | | | |
| **Total No. of Species of Conservation Interest:** | | | **2** | | | | | | | | |

Note:
(1) Species in bold represents Species of Conservation Interest.
(2) R=resident; SpM=spring migrant; Su=summer visitor; AM=autumn migrant; W=winter visitor; M=migrant; P=present all year; ?W=the extent of immigration in winter is unclear
[Principal status was assessed with reference to Carey *et al* . (2001): The Avifauna of Hong Kong]

## Appendix G Bird Species and Abundance Recorded during the Avifauna Monitoring in July 2016

**Works Area: TUW and PHV**
**Survey Site: TUW-2 and PHV-1 (grouped together due to overlapping of survey area)**
**Survey Date: 15 July 2016**

| Common Name [1] | Chinese Name | Principal Status [2] | Point Count Location | | Sub-total | Walk Transect |
|---|---|---|---|---|---|---|
| | | | TUW-2 and PHV-1/P1 | TUW-2 and PHV-1/P2 | | |
| Spotted Dove | 珠頸斑鳩 | R | 1 | 1 | 2 | |
| Greater Coucal | 褐翅鴉鵑 | R | | | 0 | √ |
| **Grey-chinned Minivet** | **灰喉山椒鳥** | R,W | | | 0 | √ |
| Red-whiskered Bulbul | 紅耳鵯 | R | 2 | 3 | 5 | √ |
| **Rufous-capped Babbler** | **紅頭穗鶥** | R | | | 0 | √ |
| Masked Laughingthrush | 黑臉噪鶥 | R | | | 0 | √ |
| Black-throated Laughingthrush | 黑喉噪鶥 | R | | | 0 | √ |
| Hwamei | 畫眉 | R | | | 0 | √ |
| Common Tailorbird | 長尾縫葉鶯 | R | | | 0 | √ |
| Great Tit | 大山雀 | R | | | 0 | √ |
| Japanese White-eye | 暗綠繡眼鳥 | R,?W | 2 | | 2 | √ |
| Eurasian Tree Sparrow | 麻雀 | R | 2 | | 2 | |
| **No. of Birds at Each Point:** | | | **7** | **4** | | |
| **No. of Birds Recorded from Point Count:** | | | **11** | | | |
| **No. of Species Recorded from Point Count:** | | | **4** | | | |
| **Total No. of Species:** | | | **12** | | | |
| **Total No. of Species of Conservation Interest:** | | | **2** | | | |

Note:
(1) Species in bold represents Species of Conservation Interest.
(2) R=resident; W=winter visitor; ?W=the extent of immigration in winter is unclear.
[Principal status was assessed with reference to Carey *et al*. (2001): The Avifauna of Hong Kong]

# Appendix H

# Representative Photographs of the Avifauna Monitoring

**Appendix H Representative Photographs taken during the Avifauna Monitoring in July 2016**



Plate 1 Pond aeration and overhead wire at Point Count Location MPV-1/P8



Plate 2 Black-crowned Night Heron juvenile at Point Count Location MPV-1/P1



Plate 3 Hoardings and Stockpiles along Point Count Locations TPP-1/P1 to TPP-1/P4

**Appendix H Representative Photographs taken during the Avifauna Monitoring in July 2016**



Plate 4 Project-related construction works near Point Count Location SSS-1/P1



Plate 5 Access path that was blocked by project-related works at Point Count Location SSS-3/P6



Plate 6 Grassland near Point Count Location SSS-3/P7 was cleared and was being used for non-project related open storage

**Appendix H Representative Photographs taken during the Avifauna Monitoring in July 2016**



Plate 7 Dry agricultural activity, i.e. planting of Peach (*Prunus persica*), at Point Count Location TUW-1/P7

# Appendix I

# Certified Arborist Inspection Record

**MTR Express Rail Link, Contract 801**

Monthly Audit Inspection Record

July 2016

Audit of tree works, including tree protection, pruning work, transplanting work, maintenance works in the temporary holding nursery, and compensation tree planting

| Date | Contract | Activity Description | Purpose |
|---|---|---|---|
| 30/7/16(SLS)<br>30/7/16 (SKW) | 801 – Siu Lang Shui (Nursery)<br>So Kwun Wat Nursery | Inspection of trees to be transplanted within the contract | Regular audit of tree works |
| 26/7/16 | 802 – Nam Cheong Property Parcel 40.2, and Sham Mong Rd Footpath, Private Lot NKIL6436 | Inspection of retained trees and trees to be transplanted within the contract | Regular audit of tree works |
| 26/7/16 | 810A – West Kowloon Terminus Station North<br>Parcel NT-10 | Inspection of retained trees and trees to be transplanted within the contract | Regular audit of tree works |
| 26/7/16 | 810A – WKT station North<br>Ngo Cheung Road, Hoi Wang Road, Lin Cheung Road | Inspection of retained trees and trees to be transplanted within the contract | Regular audit of tree works |
| 26/7/16 | 811B – WKT Approach Tunnels – South<br>Parcel 44.1, Lin Cheung Road, and Jordan Road Footpath & Central Divider | Inspection of retained trees and trees to be transplanted within the contract | Regular audit of tree works |
| 26/7/16 | 816D WRK – Integrated Series Contractors Site Office Private Lot – STT-RDS/KSL-002 | Inspection of retained trees and trees to be transplanted within the contract | Regular audit of tree works |
| 26/7/16 | 820 – Mei Lai Road to Hoi Ting Road Tunnels<br>Parcel 37.2, 37.3, Kwai Chung Road (Footpath near 37.5)<br>Sham Mong Road & Hing Wah Street West Footpath<br>Parcel 39.1, 40.4, Sham Mong Road (Nam Cheong Park)<br>Private Lot STT-KX2382, Private Lot STT-KX2416 | Inspection of retained trees and trees to be transplanted within the contract | Regular audit of tree works |
| 26/7/16 | 821 – Shek Yam to Mei Lai Road Tunnels<br>Parcel NT-9 (slope) | Inspection of retained trees and trees to be transplanted within the contract | Regular audit of tree works |
| 25/7/16 (PH) | 822 – Tse Uk Tsuen to Shek Yam Tunnels | Inspection of retained trees and trees to be | Regular audit of tree works |

| | | | |
|---|---|---|---|
| 26/7/16 (KH) | Parcels NT-6 (Pat Heung), NT-7, and NT-8, Site Office – San Kwai Street, Kwai Hing, Parcel NT-17 (6.6, 6.9)<br>822 – Siu Lam FW Service Reservoir | transplanted within the contract | |
| 25/7/16 | 823A – Kam Tin Tunnels<br>Parcels NT-5A, NT-5.1A, and NT-5.3A | Inspection of retained trees and trees to be transplanted within the contract | Regular audit of tree works |
| 25/7/16 | 823B – SSS and ERS<br>Parcels NT-5.1B, NT-5.2, and NT-5.3B | Inspection of retained trees and trees to be transplanted within the contract | Regular audit of tree works |
| 25/7/16 (TKP) | 824 Tai Kong Po Tunnels<br>NT-3, NT-5.1A, NT-4<br>824 Lung Kwu Sheung Tan | Inspection of retained trees and trees to be transplanted within the contract | Regular audit of tree works |
| 25/7/16 | 825 Mai Po to Ngau Tam Mei Tunnels | Inspection of retained trees and trees to be transplanted within the contract | Regular audit of tree works |
| 26/7/16 | 830 – Trackwork and Overhead Line System (Nam Cheong Park)<br>830 – Yuet Lun Street | Inspection of retained trees and trees to be transplanted within the contract | Regular audit of tree works |

Signed by:
Matthew PRYOR (RLA, CA)



# Appendix J

# Meteorological Data

| Date JULY | Mean Pressure (hPa) | Air Temperature | | | Mean Dew Point Temperature (deg. C) | Mean Relative Humidity (%) | Mean Amount of Cloud (%) | Total Rainfall (mm) |
|---|---|---|---|---|---|---|---|---|
| | | Maximum (deg. C) | Mean (deg. C) | Minimum (deg. C) | | | | |
| 1 | 1008.9 | 33 | 30.1 | 27.7 | 26 | 79 | 78 | 3.4 |
| 2 | 1009.1 | 32 | 29.4 | 26.9 | 26 | 82 | 86 | 20.8 |
| 3 | 1008.7 | 31.5 | 29.4 | 27.3 | 25.8 | 82 | 84 | 2.7 |
| 4 | 1006.6 | 33 | 30.1 | 28 | 25.9 | 78 | 83 | 3.8 |
| 5 | 1007.5 | 32.6 | 29 | 25.8 | 26.5 | 87 | 88 | 9.8 |
| 6 | 1008.4 | 28.8 | 27.3 | 24.7 | 26 | 93 | 88 | 33.6 |
| 7 | 1005.9 | 34 | 30.2 | 27.9 | 25.6 | 77 | 53 | Trace |
| 8 | 1001 | 34.2 | 31 | 28.1 | 25.9 | 75 | 46 | - |
| 9 | 999 | 35.6 | 31.5 | 26.4 | 26.4 | 75 | 57 | 10.3 |
| 10 | 1000.3 | 31.3 | 28.6 | 26.2 | 25 | 81 | 88 | 1.7 |
| 11 | 1002.2 | 31.1 | 28.9 | 26.1 | 26.1 | 85 | 89 | 11.7 |
| 12 | 1003.8 | 29 | 28.1 | 27 | 25.1 | 84 | 88 | 0.1 |
| 13 | 1005 | 31.7 | 28.6 | 25.6 | 26.1 | 87 | 82 | 35.2 |
| 14 | 1006.8 | 30.3 | 28.9 | 26.4 | 26.2 | 86 | 83 | 10.2 |
| 15 | 1007 | 33 | 30.2 | 28.6 | 26.4 | 81 | 78 | 1 |
| 16 | 1008.1 | 33.2 | 30.6 | 29 | 26.4 | 79 | 69 | 0.3 |
| 17 | 1008.5 | 33.2 | 30.6 | 29 | 26.2 | 78 | 69 | - |
| 18 | 1007.5 | 32.4 | 30.4 | 28.7 | 25.3 | 74 | 72 | 0.6 |
| 19 | 1007.9 | 32.3 | 29.9 | 26.7 | 25.8 | 79 | 78 | 4.4 |
| 20 | 1009.8 | 31.9 | 29.2 | 25.6 | 25.6 | 82 | 70 | 16.8 |
| 21 | 1010.9 | 33.3 | 30 | 27.5 | 25.3 | 76 | 49 | 0.3 |
| 22 | 1010.3 | 32.9 | 30 | 28.1 | 25.2 | 76 | 29 | - |
| 23 | 1008.9 | 32.8 | 30 | 28 | 25.4 | 77 | 32 | - |
| 24 | 1008.4 | 34 | 30.4 | 28 | 24.6 | 72 | 21 | - |
| 25 | 1008.6 | 35 | 30.8 | 28.3 | 25.5 | 74 | 28 | - |
| 26 | 1008.3 | 32 | 29.4 | 27 | 26.4 | 84 | 57 | 8 |
| 27 | 1009.3 | 33.4 | 30.2 | 28 | 25.3 | 76 | 44 | Trace |
| 28 | 1009.7 | 32.9 | 30.1 | 28.1 | 24.8 | 74 | 29 | - |
| 29 | 1008.5 | 33.7 | 30.3 | 27.6 | 24.9 | 74 | 32 | - |
| 30 | 1006.6 | 33.5 | 29.9 | 28.7 | 24.7 | 74 | 49 | Trace |
| 31 | 1005.1 | 33.9 | 30.1 | 27 | 24.9 | 74 | 47 | 1.2 |
| Mean/Total | 1007 | 32.6 | 29.8 | 27.4 | 25.7 | 79 | 63 | 175.9 |
| Normal* | 1005.7 | 31.4 | 28.8 | 26.8 | 25.1 | 81 | 69 | 376.5 |

| Date JULY | Number of hours of Reduced Visibility# (hours) | Total Bright Sunshine (hours) | Daily Global Solar Radiation ($MJ/m^2$) | Total Evaporation (mm) | Prevailing Wind Direction (degrees) | Mean Wind Speed (km/h) |
|---|---|---|---|---|---|---|
| 1 | 0 | 5.3 | 17.72 | 4.6 | 190 | 21.9 |
| 2 | 0 | 2.7 | 14.02 | 3.2 | 200 | 21.9 |
| 3 | 0 | 1.8 | 11.12 | 2.4 | 190 | 25.1 |
| 4 | 0 | 6.8 | 20.99 | 4.8 | 180 | 33 |
| 5 | 0 | 5.4 | 18.68 | 1.9 | 120 | 22.8 |
| 6 | 0 | 0.5 | 5.39 | 2.1 | 40 | 17.8 |
| 7 | 0 | 10.5 | 23.57 | 5.4 | 60 | 13 |
| 8 | 2 | 10.4 | 22.57 | 5.9 | 280 | 23.5 |
| 9 | 0 | 10 | 22.78 | 9 | 280 | 25 |
| 10 | 0 | 2.5 | 12.74 | 5.6 | 240 | 18.8 |
| 11 | 0 | 2.4 | 11.26 | 2.7 | 240 | 19.8 |
| 12 | 0 | - | 6.58 | 1.8 | 230 | 16.3 |
| 13 | 0 | 2.2 | 11.79 | 2.2 | 160 | 12.5 |
| 14 | 0 | 0.2 | 6.14 | 2.2 | 230 | 14.3 |
| 15 | 0 | 6.2 | 19.03 | 3.9 | 230 | 22.8 |
| 16 | 0 | 8.5 | 23.85 | 6.6 | 240 | 25.1 |
| 17 | 0 | 9.2 | 23.59 | 6.6 | 230 | 23.4 |
| 18 | 0 | 10.1 | 24.07 | 6.3 | 230 | 23.7 |
| 19 | 0 | 4.1 | 16.7 | 3.2 | 220 | 25.3 |
| 20 | 0 | 6.4 | 20.06 | 2.4 | 220 | 22.7 |
| 21 | 0 | 8.8 | 24 | 6.3 | 220 | 12.3 |
| 22 | 0 | 11.4 | 27.42 | 7.1 | 240 | 14.7 |
| 23 | 0 | 11.9 | 27.84 | 6 | 250 | 21.5 |
| 24 | 0 | 12.1 | 27.72 | 7.9 | 240 | 16 |
| 25 | 0 | 11 | 25.08 | 6.1 | 140 | 8.3 |
| 26 | 0 | 7.4 | 22.06 | 4.9 | 60 | 17.5 |
| 27 | 0 | 10.1 | 23.29 | 5.5 | 200 | 9.6 |
| 28 | 0 | 11.8 | 27.42 | 7.8 | 240 | 13 |
| 29 | 0 | 11.8 | 26.61 | 5.9 | 260 | 22.3 |
| 30 | 0 | 6.3 | 15.47 | 4.5 | 270 | 16.1 |
| 31 | 0 | 10.4 | 24.9 | 5.6 | 50 | 14.1 |
| Mean/Total | 2 | 218.2 | 19.5 | 150.4 | 230 | 19.2 |
| Normal* | 15.4§ | 212 | 17.17 | 146.2 | 230 | 21.3 |
| Station | Hong Kong International Airport | King's Park | | | Waglan Island | |

# Appendix K
# Calibration Certificate

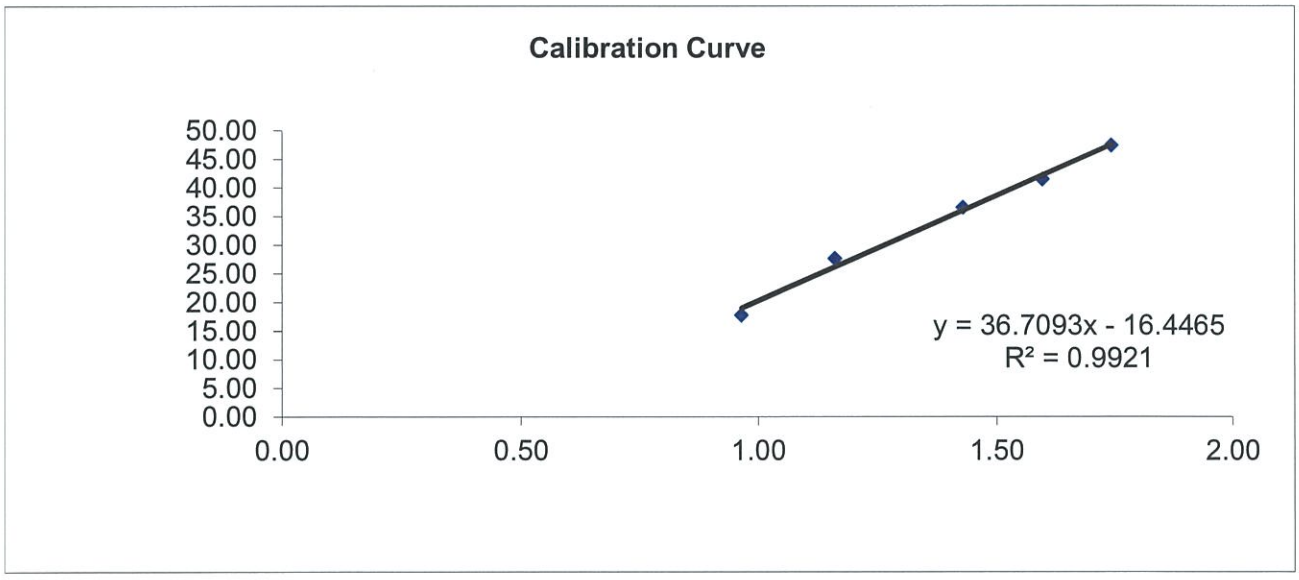
# Ove Arup Partners (Hong Kong) Limited

## *High Volume Air Sampler Calibration Worksheet*

| | | | |
|---|---|---|---|
| **Calibration date** | 29-Jul-16 | **Barometric pressure** | 753.5 mm Hg |
| **Next Calibration date** | 25-Jan-17 | **Tempature (°C)** | 30 °C |
| **Sampler location** | AM16 (XRL)/CAM-2(Roadworks at West Kowloon) - Waterfront | **Tempature (K)** | 303 K |
| **Sampler model** | TE-5170 | **$P_{std}$** | 760 mm Hg |
| **Sampler serial number** | 1282 | **$T_{std}$** | 298 K |

| | |
|---|---|
| **Calibrator model** | GMW-2535 |
| **Calibrator serial number** | 2421 |
| **Slope of the standard curve, $m_s$** | 2.07019 |
| **Intercept of the standard curve, $b_s$** | -0.04612 |

| Resistance Plate No. | Manometer Reading (inch $H_2O$) | Flow Recorder Reading (CFM) | Calculated $Q_{std}$ ($m^3$/min) | Continuous Flow Recorder Reading IC (CFM) |
|---|---|---|---|---|
| 5 | 3.90 | 18.00 | 0.96 | 17.77 |
| 7 | 5.70 | 28.00 | 1.16 | 27.65 |
| 10 | 8.70 | 37.00 | 1.43 | 36.54 |
| 13 | 10.90 | 42.00 | 1.60 | 41.47 |
| 18 | 13.00 | 48.00 | 1.74 | 47.40 |




**Linear Regression**

| | |
|---|---|
| Sampler slope (m) : | **36.7093** |
| Sampler intercept (b) : | **-16.4465** |
| Correlation coefficient ($R^2$) : | **0.9921** |

**Correlation coefficient is greater than 0.9900 and the calibration result is accepted.**

| | | | |
|---|---|---|---|
| Performed by: | | Date: | 29/7/2016 |
| Checked by: | | Date: | 29/7/2016 |
| Approved by: | | Date: | 29 Jul 2016 |

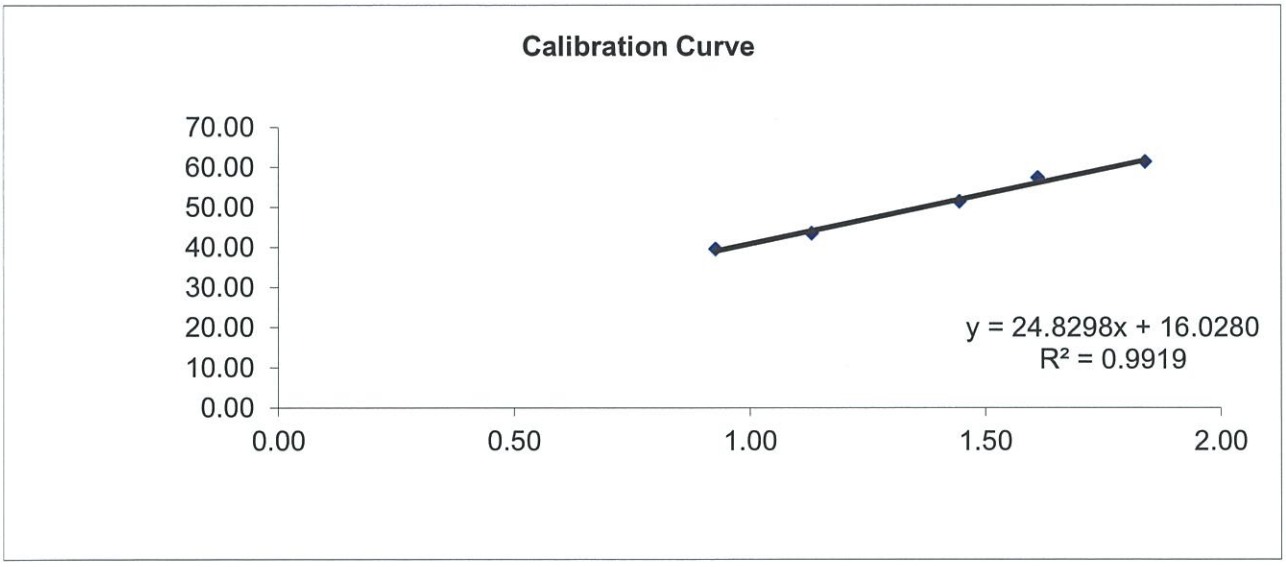
# Ove Arup Partners (Hong Kong) Limited

## *High Volume Air Sampler Calibration Worksheet*

| | | | |
|---|---|---|---|
| **Calibration date** | 29-Jul-16 | **Barometric pressure** | 753.5 mm Hg |
| **Next Calibration date** | 25-Jan-17 | **Tempature (°C)** | 30 °C |
| **Sampler location** | AM17 (XRL)/CAM-3(Roadworks at West Kowloon) - The Victoria Towers | **Tempature (K)** | 303 K |
| **Sampler model** | TE-5170 | **$P_{std}$** | 760 mm Hg |
| **Sampler serial number** | 528 | **$T_{std}$** | 298 K |

| | |
|---|---|
| **Calibrator model** | GMW-2535 |
| **Calibrator serial number** | 2421 |
| **Slope of the standard curve, $m_s$** | 2.07019 |
| **Intercept of the standard curve, $b_s$** | -0.04612 |

| Resistance Plate No. | Manometer Reading (inch $H_2O$) | Flow Recorder Reading (CFM) | Calculated $Q_{std}$ ($m^3$/min) | Continuous Flow Recorder Reading IC (CFM) |
|---|---|---|---|---|
| **5** | 3.60 | 40.00 | 0.93 | 39.50 |
| **7** | 5.40 | 44.00 | 1.13 | 43.45 |
| **10** | 8.90 | 52.00 | 1.45 | 51.35 |
| **13** | 11.10 | 58.00 | 1.61 | 57.27 |
| **18** | 14.50 | 62.00 | 1.84 | 61.22 |




**Linear Regression**

| | |
|---|---|
| Sampler slope (m) : | **24.8298** |
| Sampler intercept (b) : | **16.0280** |
| Correlation coefficient ($R^2$) : | **0.9919** |

**Correlation coefficient is greater than 0.9900 and the calibration result is accepted.**

| | | | |
|---|---|---|---|
| Performed by: | | Date: | 29/7/2016 |
| Checked by: | | Date: | 29/7/2016 |
| Approved by: | | Date: | 29 Jul 2016 |