MTR Corporation Limited

Shatin to Central Link – Tai Wai to Hung Hom Section and Mong Kok East to Hung Hom Section

Construction Noise Mitigation Measures Plan (CNMMP)

(June 2013)

Verified by: Fredrick Leong

Position: Independent Environmental Checker

Date: 11 June 2013

MTR Corporation Limited

Shatin to Central Link – Tai Wai to Hung Hom Section and Mong Kok East to Hung Hom Section

Construction Noise Mitigation Measures Plan (CNMMP)

(June 2013)

Certified by: Richard Kwan

Position: Environmental Team Leader

Date: 11 June 2013

AECOM

MTR Corporation Limited

Consultancy Agreements No.
C11033 & C11033B

Shatin to Central Link - Tai Wai to Hung Hom Section and Mong Kok East to Hung Hom Section

Construction Noise Mitigation Measures Plan

June 2013

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Version:	F	Date:	11 June 2013

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1 INTRODUCTION

1.1 Background

1.1.1 The Shatin to Central Link (SCL) is a 17km extension of the existing Ma On Shan Line (MOL) and East Rail Line (EAL) comprising (i) The East-West Corridor which extends the MOL from Tai Wai to Hung Hom via East Kowloon to connect with the West Rail Line (WRL) at Hung Hom Station (HUH) and Stabling Sidings at Hung Hom Freight Yard (HHS); and (ii) The North-South Corridor which is an extension of the East Rail Line (EAL) at Hung Hom across the harbour to Admiralty Station (ADM).

1.1.2 Shatin to Central Link – Tai Wai to Hung Hom Section [SCL (TAW-HUH)] and Shatin to Central Link – Mong Kok East to Hung Hom Section [SCL (MKK-HUH) (hereafter referred to as "the Project") are parts of the SCL. Shatin to Central Link – Stabling Sidings at Hung Hom Freight Yard [SCL (HHS)] is a proposed stabling sidings option for SCL (TAW – HUH) at the former freight yard in Hung Hom.

1.1.3 The Environmental Impact Assessment (EIA) Reports for SCL (TAW-HUH) (Register No.: AEIAR-167/2012), SCL (MKK-HUH) (Register No.: AEIAR-165/2012) and SCL (HHS) (Register No.: AEIAR-164/2012) were approved on 17 February 2012 under the Environmental Impact Assessment Ordinance (EIAO). Following the approval of the EIA Reports, two Environmental Permits (EPs) were granted on 22 March 2012, one covers SCL (TAW-HUH) and SCL (HHS)(EP No: EP-438/2012) and the other covers SCL (MKK-HUH) and SCL (HHS) (EP No.: EP-437/2012), for their construction and operation. Variations of environmental permit (VEP) was subsequently applied for EP-438/2012 and the latest Environmental Permit (EP No: EP-438/2012/C) was issued by Director of Environmental Protection (DEP) on 30 April 2013.

1.1.4 As per Condition 2.9 of EP-438/2012/C and Condition 2.7 of EP-437/2012, Construction Noise Mitigation Measures Plan (CNMMP) for the Project is required to be updated and submitted to EPD before the commencement of the construction of the Project.

1.2 Purpose of this Construction Noise Mitigation Measures Plan

1.2.1 This CNMMP is submitted to fulfil the requirements under Condition 2.9 of EP-438/2012/C and Condition 2.7 of EP-437/2012 pertaining to further reduce the air-borne construction noise impacts on the noise sensitive receivers (NSRs) shown in Table 1 of the EP-438/2012/C and Figure 1 of EP-437/2012 with exceedance after mitigation in air-borne construction noise impact as predicted in the approved SCL (TAW-HUH), SCL (MKK-HUH) and SCL (HHS) EIA Reports.

1.2.2 To fulfil the requirements of above-mentioned EP Conditions, the following information has been included in the CNMMP for individual Contracts as prepared by the respective Contractors:

- Schedule of construction works to be carried out at the works areas of the Project within 300m from the NSRs;
- Updated construction methodology of the construction works;
- Updated powered mechanical equipment (PME) list for the construction works;
- Updated proposal of air-borne noise mitigation measures for the NSRs as shown in Table 1 of the EP-438/2012/C and Figure 1 of EP-437/2012, including the provision of noise barriers, enclosures and Indirect Technical Remedies (ITR);
- Updated prediction of noise levels in accordance with the above updated information and mitigation proposals in place.

2 CONSTRUCTION NOISE MITIGATION MEASURES PLAN

2.1.1 The construction of SCL has been divided into different civil construction works contracts. The works area of SCL Works Contracts as listed in the table below would be located within 300m from the NSRs as shown in Table 1 of EP-438/2012/C and Figure 1 of EP-437/2012. As such, updated CNMMP would be required to be prepared under these Works Contracts as per EP Conditions.

Works Contract	Contract Title	Works Covered in Environmental Permit No.
1103	Hin Keng to Diamond Hill Tunnels	EP-438/2012/C
1106	Diamond Hill Station	EP-438/2012/C
1107	Diamond Hill to Kai Tak Tunnels	EP-438/2012/C
1109	Stations and Tunnels of Kowloon City Section	EP-438/2012/C
1111	Hung Hom North Approach Tunnels	EP-437/2012 & EP-438/2012/C
1112	Hung Hom Station and Stabling Sidings	EP-437/2012 & EP-438/2012/C

2.1.2 The updated CNMMP for Works Contracts 1109, 1111, 1103, 1106, 1107 and 1112 have been prepared by the respective Contractor's ET based on updated construction methodology, powered mechanical equipment (PME) and construction programme, and are provided in **Appendices A** to **F** respectively. **Table 2.1** summarises a comparison of the mitigated air-borne construction noise levels at the NSRs shown in Table 1 of EP-438/2012/C and Figure 1 of EP-437/2012 predicted in the updated CNMMP for individual Contracts with those predicted in the approved SCL (TAW-HUH), SCL (MKK-HUH) and SCL (HHS) EIA Reports.

2.1.3 According to the updated CNMMPs, the noise mitigation measures proposed in the approved SCL (TAW-HUH), SCL (MKK-HUH) and SCL (HHS) EIA Reports remain valid. With the updated information, the mitigated air-borne construction noise impacts predicted in the CNMMPs would be reduced, in terms of exceedance and duration, compared to those in the approved EIA Reports.

2.1.4 This CNMMP will be updated to cover the updated CNMMPs of remaining NSRs to be prepared by the relevant Contractor's ET after the award of contracts.

Table 2.1 Summary of Updated Mitigated Air-borne Construction Noise Impact

NSR ID	Description	Uses[1]	Criterion [2] / dB(A)	Air-borne Construction Noise Impact (Mitigated)							
				Updated CNMMP				SCL (TAW-HUH), SCL (MKK-HUH) & SCL (HHS) EIA Reports			
				Predicted Max Noise Level[4] / dB(A)	Exceedance Duration[3] / Month			Predicted Max Noise Level[4] / dB(A)	Exceedance Duration[3] / Month		
					1-4dB(A)	5-9dB(A)	10-14dB(A)		1-4dB(A)	5-9dB(A)	10-14dB(A)
Contract No.1103											
TAW-6-7	C.U.H.K.A.A. Thomas Cheung School[5]	E	70 (65)	66	(1)	-	-	68 (67)	(1)	-	-
Contracts No.1103 & 1106											
DIH-9-1	Shek On Building[5]	E + W	70 (65)	67 (65)	-	-	-	63[7]	-	-	-
DIH-13-1	Canossa Primary School[5]	E	70 (65)	63 (62)	-	-	-	61[7]	-	-	-
Contracts No.1106 & 1107											
DIH-14-1	Rhythm Garden Block 2	R	75	69	-	-	-	66[7]	-	-	-
DIH-14-5	Rhythm Garden Block 1	R	75	67	-	-	-	65[7]	-	-	-
Contracts No.1103, 1106 and 1107											
DIH-14-4	Canossa Primary School (San Po Kong)[5]	E	70 (65)	67 (65)	-	-	-	64[7]	-	-	-
Contract No.1109											
TKW-1-1	Parc 22	R	75	74	-	-	-	80	6	5	-
TKW-2-2	Skytower Tower 2	R	75	70	-	-	-	76	5	-	-
TKW-3-2	Prosperity House	R	75	80	-	4	-	80	-	4	-
MTW-12-3	Lucky Mansion	R	75	80	8	2	-	80	15	2	-

NSR ID	Description	Uses[1]	Criterion [2] / dB(A)	Air-borne Construction Noise Impact (Mitigated)							
				Updated CNMMP				SCL (TAW-HUH), SCL (MKK-HUH) & SCL (HHS) EIA Reports			
				Predicted Max Noise Level[4] / dB(A)	Exceedance Duration[3] / Month			Predicted Max Noise Level[4] / dB(A)	Exceedance Duration[3] / Month		
					1-4dB(A)	5-9dB(A)	10-14dB(A)		1-4dB(A)	5-9dB(A)	10-14dB(A)
MTW-12-4	352-354 Ma Tau Wai Rd (East Façade)	R	75	80	8	3	-	80	14	3	-
MTW-12-4-1	352-354 Ma Tau Wai Rd (North Façade)	R	75	82	4	4	-	84	3	8	-
MTW-12-10	Lucky Building (South Facade)	R	75	84	2	5	-	84	-	8	-
MTW-12-10-1	Lucky Building (East Façade)	R	75	80	10	1	-	80	10	1	-
MTW-12-11	Jing Ming Building	R	75	81	4	6	-	82	3	10	-
MTW-16-1	SKH Good Shepherd Primary School[5]	E	70 (65)	78 (78)	5 (2)	24 (1)	(9)	79	12	34 (3)	(13)
MTW-18-2	No. 2 Kowloon City Road	R	75	81	2	2	-	81	2	2	-
HOM-2-1-A	Faerie Court (East Façade)	R	75	71	-	-	-	78	12	-	-
Contract No.1111											
OM4a	Carmel Secondary School (South Block)[5]	E	70 (65)	70 (69)	(3)	-	-	70 (69)	(4)	-	-
Contracts No.1111 & 1112											
HH2[6]	Wing Fung Building	R	75	77	8	-	-	78	8	-	-

Notes:

[1] R- Residential; E – Educational institution; W-Worship

[2] Values in parentheses indicate the noise criterion during examination period of educational institution.

[3] Values in parentheses indicate the exceedance duration of the noise criterion during examination period of educational institution.

[4] Values in parentheses indicate the predicted maximum noise level during examination period of educational institution.

[5] Typical examination period is in May, June, November and December except it is in March, April, May and December for OM4a. The exceedance duration during examination is subject to the school activity schedule of TAW-6-7, DIH-9-1, DIH-13-1, DIH-14-4, MTW-16-1 and OM4a when available. It is confirmed by the latest school time table, examination is conducted at MTW-16-1 in December 2012 and January 2013, and at TAW-6-7 in mid of April and mid of June 2013.

[6] HH2 named as HUH-1-3 in SCL (TAW-HUH) and SCL (HHS) EIA Reports.

[7] Since Hung Hom Freight Yard is now the confirmed option for SCL (TAW – HUH) stabling sidings, the predicted maximum noise levels in the SCL (HHS) EIA Report are adopted.

Appendix A

Construction Noise Mitigation Measures Plan for Contract No. 1109 – Stations and Tunnels of Kowloon City Section

MTR Corporation Limited

Shatin to Central Link –
Tai Wai to Hung Hom Section

Construction Noise Mitigation Measures Plan
(CNMMP)

Works Contract 1109 – Stations and Tunnels of

Kowloon City Section

(January 2013)

Certified by: Winnie Ko

Position: Environmental Team Leader

Date: 2013/01/11

PLAN

Samsung-Hsin Chong JV

Shatin to Central Link (SCL) - Tai Wai to Hung Hom Section: Works Contract 1109 –Stations and Tunnels of Kowloon City Section

Construction Noise Mitigation Measures Plan

(Revision E)

January 2013

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PLAN

Samsung-Hsin Chong JV

Shatin to Central Link (SCL) - Tai Wai to Hung Hom Section: Works Contract 1109 – Stations and Tunnels of Kowloon City Section

Construction Noise Mitigation Measures Plan

(Revision E)

January 2013

Reference 0171181

For and on behalf of ERM-Hong Kong, Limited	
Approved by:	Frank Wan
Signed:	
Position:	Partner
Date:	11 January 2013

This report has been prepared by ERM-Hong Kong, Limited with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporating our General Terms and Conditions of Business and taking account of the resources devoted to it by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

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1 INTRODUCTION

The Shatin to Central Link – Tai Wai to Hung Hom Section (hereafter referred to as SCL (TAW-HUH) is an approximately 11 km long extension of the Ma On Shan Line and connects the West Rail Line at Hung Hom forming a strategic east-west rail corridor. It is a Designated Project under the *Environmental Impact Assessment Ordinance* (Cap. 499) (EIAO).

The construction of the SCL (TAW-HUH) has been divided into a series of civil construction Works Contracts and Contract 1109 covers the construction of To Kwa Wan (TKW) station and Ma Tau Wai (MTW) station, and the tunnels between TKW and Ho Man Tin (HOM) station. This construction contract was awarded to Samsung-Hsin Chong JV (SSHCJV) in July 2012.

The Environmental Impact Assessment (EIA) Report of the SCL (TAW-HUH) (Register No. AEIAR-167/2012) was approved by the Environmental Protection Department (EPD) under the EIAO in February 2012. An Environmental Permit (EP-438/2012) has been issued in March 2012. The EP has been varied recently and a varied EP (EP-438/2012/A) was issued in July 2012.

According to the Condition 2.9 of the EP-438/2012/A, to further reduce the air-borne construction noise impacts on the 19 noise sensitive receivers (NSRs) shown in Table 1 of the EP with exceedance after mitigation as predicted in the SCL (TAW-HUH) EIA Report (Register No. AEIAR-167/2012) and SCL (HHS) EIA Report (Register No. AEIAR-164/2012), the Permit Holder shall, no later than one month before the commencement of construction of the Project, submit to the Director of Environmental Protection (DEP) for approval four hard copies and one electronic copy of an updated Construction Noise Mitigation Measures Plan (CNMMP) and other initiatives proposed by the Permit Holder. The CNMMP shall include:

- *a schedule of construction works to be carried out at the works areas of the Project within 300m from the NSRs;*
- *an updated construction methodology of the proposed construction works;*
- *an updated powered mechanical equipment (PME) list for the proposed construction works;*
- *an updated proposal of air–borne noise mitigation measures for the 19 NSRs as shown in Table 1 of this Permit, including the provision of noise barriers, enclosures and Indirect Technical Remedies;*
- *an updated prediction of noise levels in accordance with the above updated information and mitigation proposals in place.*

Before submission to the DEP, the CNMMP will be certified by the Environmental Team (ET) Leader and verified by the Independent Environmental Checker (IEC) as conforming to the relevant information and recommendations contained in the approved SCL (TAW-HUH) EIA Report (Register No. AEIAR-167/2012) and SCL(HHS) EIA Report (Register No. AEIAR-164/2012). All measures recommended in the approved CNMMP will be fully and properly implemented during construction.

Of the 19 NSRs with residual construction noise impacts identified in the approved SCL (TAW-HUH) EIA Report and required to be included in the CNMMP under the EP condition, 12 of them are relevant to Works Contract 1109. The locations of the NSRs covered in this CNMMP and SCL (TAW-HUH) alignment under Works Contract 1109 are shown in *Figure 1.1.* This CNMMP is prepared to comply with the above-mentioned requirements.

2 DESCRIPTION OF CONSTRUCTION WORKS IN THE STUDY AREA

2.1 NOISE SENSITIVE RECEIVERS

The 300m study areas of the identified 12 NSRs with predicted residual construction noise impacts are shown in *Table 2.1* and *Figure 1.1*.

Table 2.1 NSRs with Predicted Residual Air-borne Construction Noise Impacts (Extracted from Table 1 of the EP)

NSR ID	NSR Description	Uses [a]	Criterion [b] dB(A)	Predicted Maximum Noise Level dB(A)	Predicted Residual Noise Impact dB(A)
TKW-1-1	Parc 22	R	75	80	5
TKW-2-2	Skytower Tower 2	R	75	76	1
TKW-3-2	Prosperity House	R	75	80	5
MTW-12-3	Lucky Mansion	R	75	80	5
MTW-12-4	352-354 Ma Tau Wai Rd (East Façade)	R	75	80	5
MTW-12-4-1	352-354 Ma Tau Wai Rd (North Facade)	R	75	84	9
MTW-12-10	Lucky Building (South Facade)	R	75	84	9
MTW-12-10-1	Lucky Building (East Facade)	R	75	80	5
MTW-12-11	Jing Ming Building	R	75	82	7
MTW-16-1	SKH Good Shepherd Primary School	E	70 (65) [b]	79 (79)	9(14) [c]
MTW-18-2	No. 2 Kowloon City Road	R	75	81	6
HOM-2-1-A	Faerie Court (East Facade) [d]	R	75	78	3

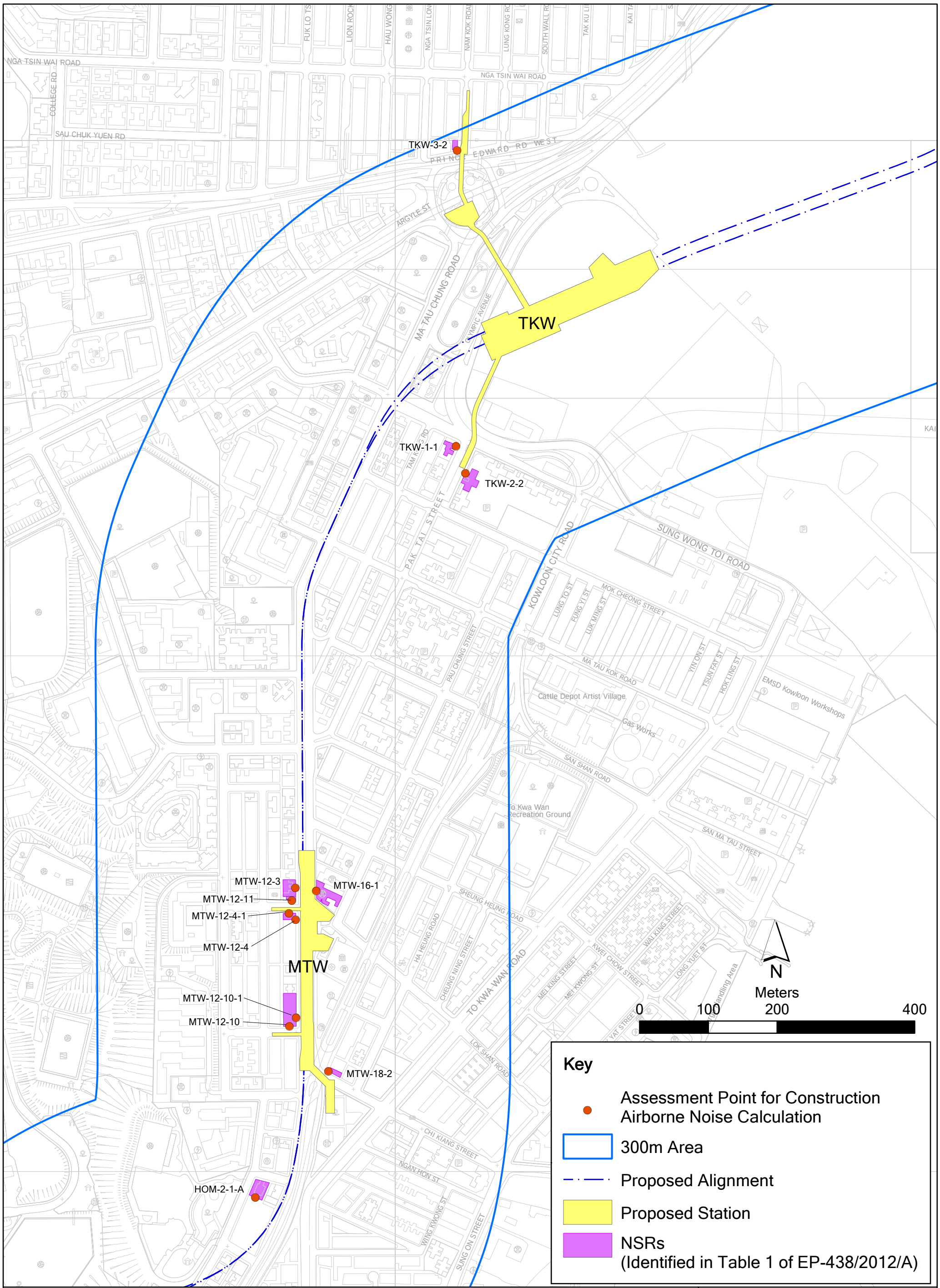

Figure 1.1

Location of Noise Sensitive Receivers (NSRs)

Name: 0171181_NSR.mxd
Date: 26/7/2012

Environmental Resources Management

ERM

NSR ID	NSR Description	Uses (a)	Criterion (b) dB(A)	Predicted Maximum Noise Level dB(A)	Predicted Residual Noise Impact dB(A)

Notes:

(a) R – Residential; E – Educational institution

(b) Values in parentheses indicate the noise criterion during examination period (typical examination period in May, June, November and December) of educational institution.

(c) Residual impact is only expected during the examination period (typical examination period in May, June, November and December) of the educational institution.

(d) HOM-2-1-A refers to Faerie Court (South Façade) in Tables 8.10 and 8.13 of the SCL (TAW-HUH) EIA Report.

2.2 *CONSTRUCTION METHODOLOGY*

The proposed construction methodology is generally following that presented in Section 3 of the approved SCL (TAW-HUH) EIA Report. The tunnel section between TKW to HOM will be constructed by bored tunnelling. The foundation of TKW and MTW stations will employ either pre-bored H-piles or D-walls and the underground structure will be constructed by in-situ concreting.

A breakdown of the major construction activities in sequence to be carried out at TKW and MTW within 300m of the NSRs are detailed in *Annexes A1* and *B1*, respectively.

2.3 *UPDATED PRELIMINARY CONSTRUCTION PROGRAMME*

The updated preliminary construction programme prepared by SSHCJV has been used in this CNMMP and has been presented on a monthly basis for the duration of the construction works in corresponding worksites. The construction schedule has been adjusted such that to minimise concurrent construction works to be carried out in the vicinity as far as practicable. The updated preliminary construction programmes for TKW and MTW are provided in *Annexes A1* and *B1*, respectively.

2.4 *UPDATED POWERED MECHANICAL EQUIPMENT LIST*

The updated Powered Mechanical Equipment (PME) list for the construction works is provided in *Table 3.1*. The Sound Power Levels (SWL) for the PMEs have been adopted from EPD's *Technical Memorandum on Noise from Construction Work Other than Percussive Piling (GW-TM)*, list of SWLs of other commonly used PME (1) or British Standard BS 5228–1:2009 (2). It should be

(1) "Sound power levels of other commonly used PME" prepared by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)

(2) British Standard BS 5228:2009, Part 1 - Noise and Vibration Control on Construction and Open Sites

noted that the PMEs proposed are commonly available in the Hong Kong market. The PMEs to be adopted for individual construction activities for TKW and MTW are provided in *Annexes A2* and *B2*, respectively.

3 NOISE ASSESSMENT AND PROPOSED MITIGATION MEASURES

3.1 ASSESSMENT METHODOLOGY AND ASSUMPTIONS

The construction noise assessment has been carried out in accordance with the methodology used in the approved SCL (TAW-HUH) EIA Report. The individual work sites and relative distance between the NSRs are the same as that adopted in the SCL (TAW-HUH) EIA Report. The detailed plans from the SCL (TAW-HUH) EIA Report have been given in *Annexes A* and *B* for TKW and MTW, respectively.

The percentage on-time for each PME has been estimated individually for each construction activity to ensure practicality and is consistent with the assumptions made in the SCL (TAW-HUH) EIA Report.

The SSHCJV has confirmed that the programme and plant inventory are reasonable and practicable for completing the Works Contract 1109 within the scheduled timeframe.

All mitigation measures and their effectiveness proposed in the SCL (TAW-HUH) EIA Report including use of temporary movable noise barrier and enclosure (with sufficient ventilation) for relatively static plant, acoustic mat and quiet plant have been considered in this CNMMP, as shown in *Table 3.1*. Details of proposed mitigation measures for TKW and MTW are presented in *Annexes A2* and *B2*, respectively.

Table 3.1 PME List with Proposed Mitigation Measures Adopted under Works Contract 1109

PME	TM Ref. / Other Ref.[(a)] / BS 5228 Ref.[(b)]	Type of Noise Mitigation Measures	Noise Level Reduction, dB(A)
Air compressor, air flow > 10m3/min and =< 30 m3/min	CNP 002	Enclosure	-10
Air compressor, air flow > 30m3/min	BS D7 44	Enclosure	-10
Bar bender and cutter (electric)	CNP 021		
Breaker, excavator mounted (hydraulic)	BS D8 13	Barrier	-5
Breaker, excavator mounted (pneumatic)	BS D3 100	Barrier	-5
Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	Barrier	-5
Bulldozer	BS D9 2	Barrier	-5
Compactor, vibratory	CNP 050	Barrier	-5
Concrete lorry mixer	BS D6 23	Barrier	-5
Concrete pump, stationary / lorry mounted	BS D6 34	Barrier	-5

PME	TM Ref. / Other Ref.[(a)] / BS 5228 Ref.[(b)]	Type of Noise Mitigation Measures	Noise Level Reduction, dB(A)
Concrete pumping lorry	CNP 054	-	-
Crane, mobile / barge mounted (diesel)	BS D7 114	Barrier	-5
Crane, tower (electric)	CNP 049	-	-
Drill rig, rotary type (diesel)	CNP 072	Barrier	-5
Dump truck	BS D3 60	Barrier	-5
Dump truck	BS D9 39	Barrier	-5
Excavator / loader, wheeled / tracked	BS D3 35	Barrier	-5
Excavator, mini-robot mounted	CNP 082	Barrier	-5
Generator (Slienced)	CNP 103	Enclosure	-10
Generator, portable	CNP 107	Enclosure	-5
Giken Pile Rig	--	Barrier	-5
Grout mixer	CNP 105	Enclosure	-5
Grout pump	CNP 106	Enclosure	-5
H-Pile rig	BS D4 89a	Enclosure	-10
Lorry	BS D9 19	Barrier	-5
Piling, D-wall, bentonite filtering plant	CNP 162	Barrier	-10
Piling, D-wall, hydraulic extractor	CNP 163	Barrier	-5
Piling, earth auger, auger	BS D4 44	Acoustic Mat	-10
Piling, large dia bored, grab & chisel	BS D3 106	Enclosure	-10
Piling, large dia bored, RCD	CNP 166	Enclosure	-10
Piling, vibrating hammer	BS D4 13	Barrier	-5
Poker, vibratory, hand held	BS D6 40	Barrier	-5
Road Roller	BS D8 30	Barrier	-5
Trench Cutter	BS D3 106	Acoustic Mat	-10
Ventilation fan	CNP 241	Enclosure	-10
Water pump (electric)	CNP 281	-	-

Notes:

(a) "Sound power levels of other commonly used PME" prepared by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)

(b) *British Standard BS 5228:2009, Part 1 - Noise and Vibration Control on Construction and Open Sites*

Due to the limited working space at worksite S11 under TKW, some construction activities will be operated in sequence rather than simultaneously within the respective works areas, ie only Group A, Group B or Group C of the PMEs will be operated at any time (see *Annex A2*). The group of PMEs with the highest SWL have been used for calculation at the worksite to present the worst-case scenario.

Instead of excavating the whole area of the MTW station and using a temporary traffic decking to cover the mucking out area as proposed in the approved EIA report, the excavation works at MTW will be carried out in 3 stages. Stage 1 will involve the excavation works along the west bound of Ma Tau Wai Road, stage 2 will involve the excavation works along the east

bound, and stage 3 will involve 2 lanes in the middle of the road. The plans showing the 3 stages of works at the MTW station are presented in *Annex C*.

The excavation works will be carried out in small area in phases during each stage. Each excavation area will not be greater than 20m x 10m. There will be no more than 4 excavation areas along the road at any one time. The 4 excavation areas will be located as far away as possible from each other so that there will be only one excavation area in each of the works areas within the site hoarding boundary (see Drawing No. 1109/T/TKW/SHJ/C10/007 for stage 1 excavation in *Annex C*). Each excavation area will be about 6 to 7m in depth. After the excavation works, there will be construction of slab and installation of utilities, and each excavation area will be reinstated at once after completion of the works. Each cycle from excavation to the completion of reinstatement works for each area will take about 2 to 3 months.

With this improved method, the excavation area at any one time will be reduced comparing with that proposed in the approved EIA report. Hence, the construction noise impact associated with the construction works will be further minimised. The use of temporary traffic decking, which will be very noisy when vehicles travel on it, will not be required and the excavated area will be reinstated at once after construction works have been completed. Movable noise barriers and enclosures will be provided throughout Stages 1 to 3 excavation works as per the calculations given in *Annex B2* and *Table 3.1*.

3.2 *PROPOSED MITIGATION STRATEGY AND NOISE ASSESSMENT RESULTS*

The air-borne construction noise impacts for the construction activities under Works Contract 1109 have been assessed and summarised in *Table 3.2*. The potential noise impact at the educational institution NSR MTW-16-1 during examination period is shown in *Table 3.3*. The detailed assessment results for TKW and MTW are presented in *Annexes A3* and *B3*, respectively. The proposed mitigation measures described above are included in the assessment and, as such, only the mitigated scenario has been presented.

As shown in *Table 3.2*, with the implementation of quiet plant, temporary movable noise barrier, enclosure and acoustic mat for the PMEs, and scheduling of PMEs at worksite S11 under TKW as far as possible, worksite MTW SSS will be used as storage area, the maximum predicted noise levels and duration of the exceedances at the NSRs are either reduced or remain unchanged as compared to the predicted levels presented in the SCL (TAW-HUH) EIA Report. In addition, the maximum predicted noise levels at NSR TKW-1-1, TKW-2-2 and HOM-2-1-A have been reduced to comply with the 75 dB(A) noise criterion and therefore, based upon the revised construction programme and plant inventory, no exceedances are predicted.

Table 3.2 Updated Mitigated Construction Noise Impact at Identified NSRs

NSR	Noise Criterion dB(A)	EIA Prediction			CNMMP Prediction		
		Max Noise Level, dB(A)	Exceedance Duration		Max Noise Level, dB(A)	Exceedance Duration	
			1-4dB(A)	5-9dB(A)		1-4dB(A)	5-9dB(A)
TKW-1-1	75	80	6	5	74	-	-
TKW-2-2	75	76	5	-	70	-	-
TKW-3-2	75	80	-	4	80	-	4
MTW-12-3	75	80	15	2	80	8	2
MTW-12-4	75	80	14	3	80	8	3
MTW-12-4-1	75	84	3	8	82	4	4
MTW-12-10	75	84	-	8	84	2	5
MTW-12-10-1	75	80	10	1	80	10	1
MTW-12-11	75	82	3	10	81	4	6
MTW-16-1	70	79	12	34	78	5	24
MTW-18-2	75	81	2	2	81	2	2
HOM-2-1-A	75	78	12	-	71	-	-

Table 3.3 Updated Mitigated Construction Noise Impact (Educational Institution during Examination Period)

NSR	Noise Criterion dB(A)	EIA Prediction				CNMMP Prediction			
		Max Noise Level, dB(A)	Exceedance Duration			Max Noise Level, dB(A)	Exceedance Duration [(a)(b)]		
			1-4 dB(A)	5-9 dB(A)	10-14 dB(A)		1-4 dB(A)	5-9 dB(A)	10-14 dB(A)
MTW-16-1	65	79	-	3	13	78	2	1	9

Notes:

(a) Typical examination period is in May, June, November and December. The exceedance duration is subject to the school activity schedule of MTW-16-1 when available.

(b) In general practice, examination period should only last for 2 weeks. By scheduling the construction works to avoid the examination period, the residual impact should be minimised.

After the implementation of all above mentioned mitigation measures, residual impacts are still predicted at all identified NSRs except for NSRs TKW-1-1, TKW-2-2 and HOM-2-1-A. The exeedance at the identified NSRs is due to the close proximity and the construction method at the worksites, as revealed in the approved SCL (TAW-HUH) EIA.

3.3 INDIRECT TECHNICAL REMEDIES (ITR)

Residual impacts have been minimised via exhausting all practical direct noise mitigation measures, including the use of quiet PME, temporary movable noise barriers, noise enclosure and acoustic mat for various construction plant, and scheduling of PMEs worksite S11 under TKW. Review of further mitigation measures have been conducted in consideration of the constraints and works nature. It is considered that all practicable

mitigation measures have been exhausted and residual impacts have been minimised.

This CNMMP has been prepared to assess the noise levels and recommend direct practical mitigation measures based on the contractor's construction methodology and programme prior to commencement of construction. During construction, noise levels will be monitored under the EM&A programme and the effectiveness of the mitigation measures will be reviewed where necessary. MTR will also conduct regular communications (e.g. through Community Liaison Group) with the concerned parties. With consideration of the construction works, initiatives for practical mitigation measures and community response, MTR will continue to review and explore with the contractor based on their latest construction methodology for adopting further mitigation measures to reduce the impact as necessary. Updates in mitigation measures or noise initiatives will be reported in the monthly EM&A reports. It should be noted that the use of ITR as a mitigation measure is neither a requirement regulated under Annex 13 of the TM-EIAO nor the EIA Study Brief and it may be considered only as the last resort to reduce the noise nuisance arisen from the construction of SCL (TAW-HUH).

4 CONCLUSIONS

With the implementation of the proposed noise mitigation measures, construction noise impacts are now predicted to be reduced in respect of both exceedances and duration.

Further review and update will be performed during the construction phase and liaison with affected parties is recommended to minimise the construction noise impacts as far as practicable.

Annex A

Construction Noise Impact Assessment for TKW

Annex A-1 : Preliminary Construction Programme

No.	Activity Description	2012												2013												2014												2015												2016											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
	Daytime Period																																																												
	TKW Station + Adit + Underpinning + Launching Shaft																																																												
	Worksite S1																																																												
1	Mobilization & Site Setup								Y	Y	Y																																																		
2	Box Culvertt Diversions - North East End of Site													Y	Y	Y	Y	Y	Y	Y																																									
3	Grouting/Dewatering - Around Perimetrer of Site								Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y																													
4	ELS - South West End of site																							Y	Y	Y	Y	Y	Y	Y																																
5	Open Excavation																								Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y																										
6	Structure																												Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y						
7	Station Fit Out																																															Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
	Worksite S2																																																												
8	Adit B Phase 1															Y	Y	Y	Y	Y																																									
	Worksite S3																																																												
9	Adit B - Phase 2																				Y	Y	Y	Y	Y	Y																																			
	Worksite S4																																																												
10	Adit B - Phase 3																										Y	Y	Y	Y	Y	Y																														
	Worksite S5																																																												
11	Adit B - Phase 4 & Reinstatement of Roundabout																		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y																													
	Worksite S6																																																												
12	Adit B - Phase 5																																	Y	Y	Y	Y																									
	Worksite S7																																																												
13	Adit B - Phase 6															Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y																													
	Worksite S8																																																												
14	Adit C - Phase 1 & Reinstatement of Roads & Landscaping											Y	Y	Y	Y	Y	Y	Y	Y	Y																																									
	Worksite S9																																																												
15	Adit C - Phase 2 & Reinstatement of Roads & Landscaping																				Y	Y	Y	Y	Y	Y	Y																																			
	Worksite S10																																																												
16	Adit C - Phase 3 & Reinstatement of Roads & Landscaping																											Y	Y	Y	Y	Y	Y	Y																													
	Worksite S11																																																												
17	Adit C - Phase 4 Reinstatement of Roads & Landscaping																																		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y																
	Worksite S13																																																												
18	TBM Tunnel Plant at TKW																										Y													Y																						
19	TBM Tunnel Plant at TKW																										Y	Y	Y																																	
20	TBM Tunnel Plant at TKW																													Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y						
	Worksite S14 (out of C1109 scope, remain unchanged)																																																												
21	Site Clearance and Erection of hoarding						Y	Y																																																					
22	Sheeting and Lateral Support System								Y	Y	Y	Y	Y	Y	Y	Y	Y	Y																																											
23	Bulk excavation of soft soil and dewatering																																																												
24	Construct Tunnel																																																												
25	Backfill and compaction																								Y	Y	Y	Y	Y	Y	Y																																
	Worksite S15 (out of C1109 scope, remain unchanged)																																																												
26	Site Clearance and Erection of hoarding																Y	Y																																										
27	Sheeting and Lateral Support System																		Y	Y																																								
28	Bulk excavation of soft soil and dewatering																																																												
29	Canopy Pipe Pile Construction																																																												
30	Construct Tunnel																																																												
31	Backfill and compaction																																							Y	Y	Y																			
	Worksite S16 (out of C1109 scope, remain unchanged)																																																												
32	Site Clearance and Erection of hoarding																				Y	Y																																						
33	Bulk excavation of soft soil and dewatering																																																												
34	Construct Tunnel																																																												
35	Backfill and compaction																																											Y	Y	Y	Y													
	Worksite S18																																																												
36	Bored Piling - Pipe Pile													Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y																																				
	Worksite S19																																																												
37	Pre-bored H Pile									Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y																																					

Contract SCL 1109
Sung Won Toi and To Kwa Wan Stations and Tunnels
TKW Station + Adit + Underpinning + Launching Shaft

Annex A2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	Worksite S1									
1	**Mobilization & Site Setup**	Air compressor, air flow > 30m3/min	BS D7 44	3	50%	Enclosure	-10	103	95	**110**
		Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	3	50%	Barrier	-5	106	103	
		Breaker, excavator mounted (hydraulic)	BS D8 13	2	50%	Barrier	-5	110	105	
		Excavator / loader, wheeled / tracked	BS D3 35	5	50%	Barrier	-5	106	105	
		Poker, vibratory, hand held	BS D6 40	5	50%	Barrier	-5	98	97	
		Crane, mobile / barge mounted (diesel)	BS D7 114	2	25%	Barrier	-5	101	93	
		Generator (Slienced)	CNP 103	2	50%	Enclosure	-10	95	85	
		Dump truck	BS D3 60	2	25%	Barrier	-5	104	96	
2	**Box Culvertt Diversions - North East End of Site**	Piling, earth auger, auger	BS D4 44	2	70%	Acoustic Mat	-10	109	100	**107**
		Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	1	20%	Barrier	-5	106	94	
		Breaker, excavator mounted (hydraulic)	BS D8 13	1	20%	Barrier	-5	110	98	
		Excavator / loader, wheeled / tracked	BS D3 35	2	70%	Barrier	-5	106	102	
		Compactor, vibratory	CNP 050	1	20%	Barrier	-5	105	93	
		Poker, vibratory, hand held	BS D6 40	3	10%	Barrier	-5	98	88	
		Crane, mobile / barge mounted (diesel)	BS D7 114	1	10%	Barrier	-5	101	86	
		Generator (Slienced)	CNP 103	1	70%	Enclosure	-10	95	83	
		Bar bender and cutter (electric)	CNP 021	1	20%		0	90	83	
		Dump truck	BS D3 60	2	70%	Barrier	-5	104	100	
3	**Grouting/Dewatering - Around Perimetrer of Site**	Grout mixer	CNP 105	2	50%	Enclosure	-5	90	85	**107**
		Grout pump	CNP 106	2	50%	Enclosure	-5	105	100	
		Drill rig, rotary type (diesel)	CNP 072	2	50%	Barrier	-5	110	105	
		Water pump (electric)	CNP 281	10	100%		0	88	98	
		Generator (Slienced)	CNP 103	2	80%	Enclosure	-10	95	87	
4	**ELS - South West End of site**	Piling, earth auger, auger	BS D4 44	5	70%	Acoustic Mat	-10	109	104	**109**
		Piling, large dia bored, grab & chisel	BS D3 106	2	70%	Enclosure	-10	105	96	
		Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	2	20%	Barrier	-5	106	97	
		Breaker, excavator mounted (hydraulic)	BS D8 13	1	20%	Barrier	-5	110	98	
		Excavator / loader, wheeled / tracked	BS D3 35	2	80%	Barrier	-5	106	103	
		Generator (Slienced)	CNP 103	2	80%	Enclosure	-10	95	87	
		Dump truck	BS D3 60	2	80%	Barrier	-5	104	101	
5	**Open Excavation**	Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	2	20%	Barrier	-5	106	97	**112**

Annex A2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
		Excavator / loader, wheeled / tracked	BS D3 35	8	90%	Barrier	-5	106	110	
		Crane, mobile / barge mounted (diesel)	BS D7 114	1	30%	Barrier	-5	101	91	
		Generator, portable	CNP 107	1	50%	Enclosure	-5	100	92	
		Air compressor, air flow > 30m3/min	BS D7 44	2	50%	Enclosure	-10	103	93	
		Dump truck	BS D3 60	10	90%	Barrier	-5	104	109	
6	**Structure**	Concrete pump, stationary / lorry mounted	BS D6 34	2	20%	Barrier	-5	107	98	**107**
		Air compressor, air flow > 30m3/min	BS D7 44	4	20%	Enclosure	-10	103	92	
		Generator (Slienced)	CNP 103	4	60%	Enclosure	-10	95	89	
		Poker, vibratory, hand held	BS D6 40	6	10%	Barrier	-5	98	91	
		Bar bender and cutter (electric)	CNP 021	3	30%		0	90	90	
		Crane, mobile / barge mounted (diesel)	BS D7 114	2	80%	Barrier	-5	101	98	
		Ventilation fan	CNP 241	3	100%	Enclosure	-10	108	103	
		Dump truck	BS D3 60	2	90%	Barrier	-5	104	102	
7	**Station Fit Out**	Air compressor, air flow > 30m3/min	BS D7 44	4	80%	Enclosure	-10	103	98	**106**
		Generator (Slienced)	CNP 103	4	100%	Enclosure	-10	95	91	
		Ventilation fan	CNP 241	3	100%	Enclosure	-10	108	103	
		Crane, tower (electric)	CNP 049	2	80%		0	95	97	
		Dump truck	BS D3 60	1	80%	Barrier	-5	104	98	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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Sung Won Toi and To Kwa Wan Stations and Tunnels
TKW Station + Adit + Underpinning + Launching Shaft

Annex A2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S2**									
8	**Adit B Phase 1**	Piling, earth auger, auger	BS D4 44	2	90%	Acoustic Mat	-10	109	102	**108**
		Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	3	20%	Barrier	-5	106	99	
		Breaker, excavator mounted (hydraulic)	BS D8 13	1	40%	Barrier	-5	110	101	
		Excavator / loader, wheeled / tracked	BS D3 35	1	100%	Barrier	-5	106	101	
		Poker, vibratory, hand held	BS D6 40	2	10%	Barrier	-5	98	86	
		Crane, mobile / barge mounted (diesel)	BS D7 114	1	30%	Barrier	-5	101	91	
		Generator (Slienced)	CNP 103	2	60%	Enclosure	-10	95	86	
		Dump truck	BS D3 60	1	100%	Barrier	-5	104	99	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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TKW Station + Adit + Underpinning + Launching Shaft

Annex A2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S3**									
9	**Adit B - Phase 2**	Piling, earth auger, auger	BS D4 44	2	90%	Acoustic Mat	-10	109	102	**108**
		Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	3	20%	Barrier	-5	106	99	
		Breaker, excavator mounted (hydraulic)	BS D8 13	1	40%	Barrier	-5	110	101	
		Excavator / loader, wheeled / tracked	BS D3 35	1	100%	Barrier	-5	106	101	
		Poker, vibratory, hand held	BS D6 40	2	10%	Barrier	-5	98	86	
		Crane, mobile / barge mounted (diesel)	BS D7 114	1	30%	Barrier	-5	101	91	
		Generator (Slienced)	CNP 103	2	60%	Enclosure	-10	95	86	
		Dump truck	BS D3 60	1	100%	Barrier	-5	104	99	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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Sung Won Toi and To Kwa Wan Stations and Tunnels
TKW Station + Adit + Underpinning + Launching Shaft

Annex A2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S4**									
10	**Adit B - Phase 3**	Piling, earth auger, auger	BS D4 44	2	90%	Acoustic Mat	-10	109	102	**108**
		Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	3	20%	Barrier	-5	106	99	
		Breaker, excavator mounted (hydraulic)	BS D8 13	1	40%	Barrier	-5	110	101	
		Excavator / loader, wheeled / tracked	BS D3 35	1	100%	Barrier	-5	106	101	
		Poker, vibratory, hand held	BS D6 40	2	10%	Barrier	-5	98	86	
		Crane, mobile / barge mounted (diesel)	BS D7 114	1	30%	Barrier	-5	101	91	
		Generator (Slienced)	CNP 103	2	60%	Enclosure	-10	95	86	
		Dump truck	BS D3 60	1	100%	Barrier	-5	104	99	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

Contract SCL 1109
Sung Won Toi and To Kwa Wan Stations and Tunnels
TKW Station + Adit + Underpinning + Launching Shaft

Annex A2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S5**									
11	**Adit B - Phase 4**	Piling, earth auger, auger	BS D4 44	2	90%	Acoustic Mat	-10	109	102	**108**
	& Reinstatement of Roundabout	Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	3	20%	Barrier	-5	106	99	
		Breaker, excavator mounted (hydraulic)	BS D8 13	1	40%	Barrier	-5	110	101	
		Excavator / loader, wheeled / tracked	BS D3 35	1	100%	Barrier	-5	106	101	
		Poker, vibratory, hand held	BS D6 40	2	10%	Barrier	-5	98	86	
		Crane, mobile / barge mounted (diesel)	BS D7 114	1	30%	Barrier	-5	101	91	
		Generator (Slienced)	CNP 103	2	60%	Enclosure	-10	95	86	
		Dump truck	BS D3 60	1	100%	Barrier	-5	104	99	

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

Contract SCL 1109
Sung Won Toi and To Kwa Wan Stations and Tunnels
TKW Station + Adit + Underpinning + Launching Shaft

Annex A2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S6**									
12	**Adit B - Phase 5**	Piling, earth auger, auger	BS D4 44	2	90%	Acoustic Mat	-10	109	102	**108**
		Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	3	20%	Barrier	-5	106	99	
		Breaker, excavator mounted (hydraulic)	BS D8 13	1	40%	Barrier	-5	110	101	
		Excavator / loader, wheeled / tracked	BS D3 35	1	100%	Barrier	-5	106	101	
		Poker, vibratory, hand held	BS D6 40	2	10%	Barrier	-5	98	86	
		Crane, mobile / barge mounted (diesel)	BS D7 114	1	30%	Barrier	-5	101	91	
		Generator (Slienced)	CNP 103	2	60%	Enclosure	-10	95	86	
		Dump truck	BS D3 60	1	100%	Barrier	-5	104	99	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

Contract SCL 1109
Sung Won Toi and To Kwa Wan Stations and Tunnels
TKW Station + Adit + Underpinning + Launching Shaft

Annex A2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S7**									
13	**Adit B - Phase 6**	Piling, earth auger, auger	BS D4 44	2	90%	Acoustic Mat	-10	109	102	**108**
		Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	3	20%	Barrier	-5	106	99	
		Breaker, excavator mounted (hydraulic)	BS D8 13	1	40%	Barrier	-5	110	101	
		Excavator / loader, wheeled / tracked	BS D3 35	1	100%	Barrier	-5	106	101	
		Poker, vibratory, hand held	BS D6 40	2	10%	Barrier	-5	98	86	
		Crane, mobile / barge mounted (diesel)	BS D7 114	1	30%	Barrier	-5	101	91	
		Generator (Slienced)	CNP 103	2	60%	Enclosure	-10	95	86	
		Dump truck	BS D3 60	1	100%	Barrier	-5	104	99	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

Contract SCL 1109
Sung Won Toi and To Kwa Wan Stations and Tunnels
TKW Station + Adit + Underpinning + Launching Shaft

Annex A2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S8**									
14	**Adit C - Phase 1**	Piling, earth auger, auger	BS D4 44	2	90%	Acoustic Mat	-10	109	102	**107**
	& Reinstatement of Roads & Landscaping	Breaker, excavator mounted (hydraulic)	BS D8 13	1	40%	Barrier	-5	110	101	
		Generator (Slienced)	CNP 103	2	60%	Enclosure	-10	95	86	
		Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	2	20%	Barrier	-5	106	97	
		Excavator / loader, wheeled / tracked	BS D3 35	1	100%	Barrier	-5	106	101	
		Poker, vibratory, hand held	BS D6 40	2	10%	Barrier	-5	98	86	
		Crane, mobile / barge mounted (diesel)	BS D7 114	1	30%	Barrier	-5	101	91	
		Generator (Slienced)	CNP 103	1	60%	Enclosure	-10	95	83	
		Dump truck	BS D3 60	1	100%	Barrier	-5	104	99	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

Contract SCL 1109
Sung Won Toi and To Kwa Wan Stations and Tunnels
TKW Station + Adit + Underpinning + Launching Shaft

Annex A2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S9**									
15	**Adit C - Phase 2**	Piling, earth auger, auger	BS D4 44	2	90%	Acoustic Mat	-10	109	102	**107**
	& Reinstatement of Roads & Landscaping	Breaker, excavator mounted (hydraulic)	BS D8 13	1	40%	Barrier	-5	110	101	
		Generator (Slienced)	CNP 103	2	60%	Enclosure	-10	95	86	
		Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	2	20%	Barrier	-5	106	97	
		Excavator / loader, wheeled / tracked	BS D3 35	1	100%	Barrier	-5	106	101	
		Poker, vibratory, hand held	BS D6 40	2	10%	Barrier	-5	98	86	
		Crane, mobile / barge mounted (diesel)	BS D7 114	1	30%	Barrier	-5	101	91	
		Generator (Slienced)	CNP 103	1	60%	Enclosure	-10	95	83	
		Dump truck	BS D3 60	1	100%	Barrier	-5	104	99	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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TKW Station + Adit + Underpinning + Launching Shaft

Annex A2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S10**									
16	**Adit C - Phase 3**	Piling, earth auger, auger	BS D4 44	2	90%	Acoustic Mat	-10	109	102	**107**
	& Reinstatement of Roads & Landscaping	Breaker, excavator mounted (hydraulic)	BS D8 13	1	40%	Barrier	-5	110	101	
		Generator (Slienced)	CNP 103	2	60%	Enclosure	-10	95	86	
		Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	2	20%	Barrier	-5	106	97	
		Excavator / loader, wheeled / tracked	BS D3 35	1	100%	Barrier	-5	106	101	
		Poker, vibratory, hand held	BS D6 40	2	10%	Barrier	-5	98	86	
		Crane, mobile / barge mounted (diesel)	BS D7 114	1	30%	Barrier	-5	101	91	
		Generator (Slienced)	CNP 103	1	60%	Enclosure	-10	95	83	
		Dump truck	BS D3 60	1	100%	Barrier	-5	104	99	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
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[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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Annex A2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]	Group[4]	
	Daytime Period											
I)	**Worksite S11**											
17	**Adit C - Phase 4**	Piling, earth auger, auger	BS D4 44	2	90%	Acoustic Mat	-10	109	102	**104**	**A**	**102**
	& Reinstatement of Roads & Landscaping	Breaker, excavator mounted (hydraulic)	BS D8 13	1	40%	Barrier	-5	110	101		**B**	**101**
		Generator (Slienced)	CNP 103	2	60%	Enclosure	-10	95	86		**B**	
		Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	2	20%	Barrier	-5	106	97		**C**	**104**
		Excavator / loader, wheeled / tracked	BS D3 35	1	100%	Barrier	-5	106	101		**C**	
		Poker, vibratory, hand held	BS D6 40	2	10%	Barrier	-5	98	86		**C**	
		Crane, mobile / barge mounted (diesel)	BS D7 114	1	30%	Barrier	-5	101	91		**C**	
		Generator (Slienced)	CNP 103	1	60%	Enclosure	-10	95	83		**C**	
		Dump truck	BS D3 60	1	100%	Barrier	-5	104	99		**C**	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

[4] Only one group from Group A to Group D will be operated at any one time.

Contract SCL 1109
Sung Won Toi and To Kwa Wan Stations and Tunnels
TKW Station + Adit + Underpinning + Launching Shaft

Annex A2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	Worksite S13									
18	**TBM Tunnel Plant at TKW**	Crane, mobile / barge mounted (diesel)	BS D7 114	2	10%	Barrier	-5	101	89	**89**
	(Above Ground Only - at South West End of site)									
19	**TBM Tunnel Plant at TKW**	Crane, mobile / barge mounted (diesel)	BS D7 114	1	80%	Barrier	-5	101	95	**102**
	(Above Ground Only - at South West End of site)	Crane, tower (electric)	CNP 049	1	100%			95	95	
		Piling, D-wall, bentonite filtering plant	CNP 162	1	100%	Barrier	-10	105	95	
		Generator (Slienced)	CNP 103	1	100%	Enclosure	-10	95	85	
		Ventilation fan	CNP 241	1	100%	Enclosure	-10	108	98	
20	**TBM Tunnel Plant at TKW**	Crane, mobile / barge mounted (diesel)	BS D7 114	1	80%	Barrier	-5	101	95	**105**
	(Above Ground Only - at South West End of site)	Crane, tower (electric)	CNP 049	1	100%			95	95	
		Piling, D-wall, bentonite filtering plant	CNP 162	1	100%	Barrier	-10	105	95	
		Generator (Slienced)	CNP 103	1	100%	Enclosure	-10	95	85	
		Excavator, mini-robot mounted	CNP 082	1	100%	Barrier	-5	94	89	
		Dump truck	BS D3 60	2	80%	Barrier	-5	104	101	
		Ventilation fan	CNP 241	1	100%	Enclosure	-10	108	98	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
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[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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Annex A2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	Worksite S14									
21	**Site Clearance and Erection of hoarding**	Excavator, mini-robot mounted	CNP 082	2	50%	Barrier	-5	94	89	**103**
		Dump truck	BS D3 60	2	50%	Barrier	-5	104	99	
		Dump truck	BS D9 39	1	20%	Barrier	-5	103	91	
		Air compressor, air flow > 10m3/min and =< 30 m3/min	CNP 002	1	100%	Enclosure	-10	102	92	
		Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	1	50%	Barrier	-5	106	98	
		Generator, portable	CNP 107	1	50%	Enclosure	-5	100	92	
22	**Sheeting and Lateral Support System**	Generator, portable	CNP 107	4	50%	Enclosure	-5	100	98	**107**
		Crane, mobile / barge mounted (diesel)	BS D7 114	4	20%	Barrier	-5	101	95	
		Lorry	BS D9 19	4	10%	Barrier	-5	102	93	
		Piling, vibrating hammer	BS D4 13	4	80%	Barrier	-5	106	106	
		Air compressor, air flow > 10m3/min and =< 30 m3/min	CNP 002	4	50%	Enclosure	-10	102	95	
23	**Bulk excavation of soft soil and dewatering**	Excavator, mini-robot mounted	CNP 082	6	50%	Barrier	-5	94	94	**109**
		Dump truck	BS D3 60	4	50%	Barrier	-5	104	102	
		Water pump (electric)	CNP 281	100	100%		0	88	108	
		Crane, mobile / barge mounted (diesel)	BS D7 114	2	30%	Barrier	-5	101	94	
24	**Construct Tunnel**	Poker, vibratory, hand held	BS D6 40	3	20%	Barrier	-5	98	91	**103**
		Air compressor, air flow > 10m3/min and =< 30 m3/min	CNP 002	3	100%	Enclosure	-10	102	97	
		Concrete lorry mixer	BS D6 23	3	20%	Barrier	-5	100	93	
		Concrete pump, stationary / lorry mounted	BS D6 34	3	20%	Barrier	-5	107	100	
		Crane, mobile / barge mounted (diesel)	BS D7 114	1	20%	Barrier	-5	101	89	

Annex A2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
25	**Backfill and compaction**	Excavator, mini-robot mounted	CNP 082	4	50%	Barrier	-5	94	92	**107**
		Dump truck	BS D3 60	4	50%	Barrier	-5	104	102	
		Road Roller	BS D8 30	4	70%	Barrier	-5	101	100	
		Bulldozer	BS D9 2	4	70%	Barrier	-5	104	103	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
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[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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TKW Station + Adit + Underpinning + Launching Shaft

Annex A2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	Worksite S15									
26	**Site Clearance and Erection of hoarding**	Excavator, mini-robot mounted	CNP 082	4	50%	Barrier	-5	94	92	**103**
		Dump truck	BS D3 60	2	50%	Barrier	-5	104	99	
		Dump truck	BS D9 39	1	20%	Barrier	-5	103	91	
		Air compressor, air flow > 10m3/min and =< 30 m3/min	CNP 002	1	100%	Enclosure	-10	102	92	
		Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	1	50%	Barrier	-5	106	98	
		Generator, portable	CNP 107	1	50%	Enclosure	-5	100	92	
27	**Sheeting and Lateral Support System**	Generator, portable	CNP 107	4	50%	Enclosure	-5	100	98	**107**
		Crane, mobile / barge mounted (diesel)	BS D7 114	4	20%	Barrier	-5	101	95	
		Lorry	BS D9 19	4	10%	Barrier	-5	102	93	
		Piling, vibrating hammer	BS D4 13	4	80%	Barrier	-5	106	106	
		Air compressor, air flow > 10m3/min and =< 30 m3/min	CNP 002	4	50%	Enclosure	-10	102	95	
28	**Bulk excavation of soft soil and dewatering**	Excavator, mini-robot mounted	CNP 082	6	50%	Barrier	-5	94	94	**109**
		Dump truck	BS D3 60	4	50%	Barrier	-5	104	102	
		Water pump (electric)	CNP 281	100	100%		0	88	108	
		Crane, mobile / barge mounted (diesel)	BS D7 114	2	30%	Barrier	-5	101	94	
29	**Canopy Pipe Pile Construction**	Piling, earth auger, auger	BS D4 44	4	50%	Acoustic Mat	-10	109	102	**110**
		Excavator, mini-robot mounted	CNP 082	4	50%	Barrier	-5	94	92	
		Breaker, excavator mounted (pneumatic)	BS D3 100	2	50%	Barrier	-5	112	107	
		Dump truck	BS D3 60	4	20%	Barrier	-5	104	98	
		Piling, vibrating hammer	BS D4 13	2	50%	Barrier	-5	106	101	
		Air compressor, air flow > 10m3/min and =< 30 m3/min	CNP 002	2	50%	Enclosure	-10	102	92	
		Concrete lorry mixer	BS D6 23	2	50%	Barrier	-5	100	95	
		Generator, portable	CNP 107	4	50%	Enclosure	-5	100	98	
30	**Construct Tunnel**	Poker, vibratory, hand held	BS D6 40	3	20%	Barrier	-5	98	91	**103**
		Air compressor, air flow > 10m3/min and =< 30 m3/min	CNP 002	3	100%	Enclosure	-10	102	97	
		Concrete lorry mixer	BS D6 23	3	20%	Barrier	-5	100	93	
		Concrete pump, stationary / lorry mounted	BS D6 34	3	20%	Barrier	-5	107	100	
		Crane, mobile / barge mounted (diesel)	BS D7 114	1	20%	Barrier	-5	101	89	

Annex A2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
31	**Backfill and compaction**	Excavator, mini-robot mounted	CNP 082	4	50%	Barrier	-5	94	92	**107**
		Dump truck	BS D3 60	4	50%	Barrier	-5	104	102	
		Road Roller	BS D8 30	4	70%	Barrier	-5	101	100	
		Bulldozer	BS D9 2	4	70%	Barrier	-5	104	103	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

Contract SCL 1109
Sung Won Toi and To Kwa Wan Stations and Tunnels
TKW Station + Adit + Underpinning + Launching Shaft

Annex A2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	Worksite S16									
32	**Site Clearance and Erection of hoarding**	Excavator, mini-robot mounted	CNP 082	4	80%	Barrier	-5	94	94	**103**
		Dump truck	BS D3 60	2	50%	Barrier	-5	104	99	
		Dump truck	BS D9 39	1	20%	Barrier	-5	103	91	
		Air compressor, air flow > 10m3/min and =< 30 m3/min	CNP 002	1	100%	Enclosure	-10	102	92	
		Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	1	50%	Barrier	-5	106	98	
		Generator, portable	CNP 107	1	50%	Enclosure	-5	100	92	
33	**Bulk excavation of soft soil and dewatering**	Excavator, mini-robot mounted	CNP 082	6	100%	Barrier	-5	94	97	**109**
		Dump truck	BS D3 60	4	50%	Barrier	-5	104	102	
		Water pump (electric)	CNP 281	100	100%		0	88	108	
		Crane, mobile / barge mounted (diesel)	BS D7 114	2	30%	Barrier	-5	101	94	
34	**Construct Tunnel**	Poker, vibratory, hand held	BS D6 40	3	20%	Barrier	-5	98	91	**103**
		Air compressor, air flow > 10m3/min and =< 30 m3/min	CNP 002	3	100%	Enclosure	-10	102	97	
		Concrete lorry mixer	BS D6 23	3	20%	Barrier	-5	100	93	
		Concrete pump, stationary / lorry mounted	BS D6 34	3	20%	Barrier	-5	107	100	
		Crane, mobile / barge mounted (diesel)	BS D7 114	1	20%	Barrier	-5	101	89	
35	**Backfill and compaction**	Excavator, mini-robot mounted	CNP 082	4	100%	Barrier	-5	94	95	**107**
		Dump truck	BS D3 60	4	50%	Barrier	-5	104	102	
		Road Roller	BS D8 30	4	70%	Barrier	-5	101	100	
		Bulldozer	BS D9 2	4	70%	Barrier	-5	104	103	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

Contract SCL 1109
Sung Won Toi and To Kwa Wan Stations and Tunnels
TKW Station + Adit + Underpinning + Launching Shaft

Annex A2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S18**									
36	**Bored Piling - phase 1**	Piling, earth auger, auger	BS D4 44	3	90%	Acoustic Mat	-10	109	103	**107**
		Crane, mobile / barge mounted (diesel)	BS D7 114	1	90%	Barrier	-5	101	96	
		Generator (Slienced)	CNP 103	1	60%	Enclosure	-10	95	83	
		Bar bender and cutter (electric)	CNP 021	1	50%		0	90	87	
		Air compressor, air flow > 30m3/min	BS D7 44	1	60%	Enclosure	-10	103	91	
		Dump truck	BS D3 60	1	50%	Barrier	-5	104	96	
		Concrete pumping lorry	CNP 054	1	20%		0	109	102	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

Contract SCL 1109
Sung Won Toi and To Kwa Wan Stations and Tunnels
TKW Station + Adit + Underpinning + Launching Shaft

Annex A2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S19**									
37	**Bored Piling - phase 2**	Piling, earth auger, auger	BS D4 44	10	90%	Acoustic Mat	-10	109	109	**112**
		Crane, mobile / barge mounted (diesel)	BS D7 114	3	90%	Barrier	-5	101	100	
		Generator (Slienced)	CNP 103	1	60%	Enclosure	-10	95	83	
		Bar bender and cutter (electric)	CNP 021	1	50%		0	90	87	
		Air compressor, air flow > 30m3/min	BS D7 44	1	60%	Enclosure	-10	103	91	
		Dump truck	BS D3 60	3	50%	Barrier	-5	104	101	
		Concrete pumping lorry	CNP 054	3	20%		0	109	107	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

Annex A-3 : Summary of Predicted Noise Levels from Construction

TKW Station + Adit + Underpinning + Launching Shaft

	NSR Location	EIAO-TM Noise Criteria, dB(A)	Predicted Construction Noise Level (dB(A))																							
			2012												2013											
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
TKW-1-1	Parc 22	75								59	62	62	69	69	70	70	70	70	70	70	70	73	73	73	73	73
TKW-2-2	Skytower Tower 2	75								58	61	61	66	66	67	67	67	67	67	67	67	69	69	69	69	69
TKW-3-2	Prosperity House	75								58	61	61	59	59	61	61	75	75	75	75	75	75	75	75	75	75

	Predicted Construction Noise Level (dB(A))																							
	2014												2015											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
TKW-1-1	73	73	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	57	58	58	58
TKW-2-2	69	69	69	69	69	69	69	69	69	70	70	70	70	70	70	70	70	70	70	70	56	57	57	57
TKW-3-2	75	75	75	75	75	75	75	75	**80**	**80**	**80**	**80**	56	56	56	56	56	56	56	56	56	57	57	57

	Predicted Construction Noise Level (dB(A))												Maximum Predicted CNL, dB(A)
	2016												
	1	2	3	4	5	6	7	8	9	10	11	12	
TKW-1-1	58	58	58	57	57	53	53	53	53				74
TKW-2-2	57	57	57	56	56	53	53	53	53				70
TKW-3-2	57	57	57	56	56	53	53	53	53				**80**

Note:

80 Predicted Noise Level exceeded the corresponding EIAO-TM noise criteria.

Annex A4-a

Construction Noise Assessment

NSR: TKW-1-1 Parc 22

No.	Activity Description	SWL dB(A)[2]	Distance m	Corr. for distance dB(A)[1][2]	Corr. for façade dB(A)	Predicted Construction Noise Level (dB(A)) 2012 1	2012 2	2012 3	2012 4	2012 5	2012 6	2012 7	2012 8	2012 9	2012 10	2012 11	2012 12	2013 1	2013 2	2013 3	2013 4	2013 5	2013 6	2013 7	2013 8	2013 9	2013 10	2013 11	2013 12	2014 1	2014 2	2014 3	2014 4	2014 5	2014 6	2014 7	2014 8	2014 9	2014 10	2014 11	2014 12	2015 1	2015 2	2015 3	2015 4	2015 5	2015 6	2015 7	2015 8	2015 9	2015 10	2015 11	2015 12	2016 1	2016 2	2016 3	2016 4	2016 5	2016 6	2016 7	2016 8	2016 9	2016 10	2016 11	2016 12	Max. CNL dB(A)
	Daytime Period																																																																				
	TKW Station + Adit + Underpinning + Launching Shaft																																																																				
	Worksite S1																																																																				
1	Mobilization & Site Setup	110	235	-55	3								57	57	57																																																						
2	Box Culvertt Diversions - North East End of Site	107	235	-55	3													55	55	55	55	55	55	55																																															
3	Grouting/Dewatering - Around Perimetrer of Site	107	235	-55	3								54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54																																			
4	ELS - South West End of site	109	235	-55	3																							56	56	56	56	56	56	56																																			
5	Open Excavation	112	235	-55	3																								60	60	60	60	60	60	60	60	60	60	60	60																													
6	Structure	107	235	-55	3																											55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55													
7	Station Fit Out	106	235	-55	3																																															53	53	53	53	53	53	53	53	53	53	53	53	53	53								
	Worksite S2																																																																				
8	Adit B Phase 1	108	240	-56	3															55	55	55	55	55																																														
	Worksite S3																																																																				
9	Adit B - Phase 2	108	260	-56	3																				54	54	54	54	54	54																																					
	Worksite S4																																																																				
10	Adit B - Phase 3	108	280	-57	3																										54	54	54	54	54	54																																			
	Worksite S5																																																																				
11	Adit B - Phase 4 & Reinstatement of Roundabout	108	n/a	--	3																																																																
	Worksite S6																																																																				
12	Adit B - Phase 5	108	n/a	--	3																																																																
	Worksite S7																																																																				
13	Adit B - Phase 6	108	n/a	--	3																																																																
	Worksite S8																																																																				
14	Adit C - Phase 1 & Reinstatement of Roads & Landscaping	107	50	-42	3											68	68	68	68	68	68	68	68																																																
	Worksite S9																																																																				
15	Adit C - Phase 2 & Reinstatement of Roads & Landscaping	107	30	-38	3																				73	73	73	73	73	73	73																																					
	Worksite S10																																																																				
16	Adit C - Phase 3 & Reinstatement of Roads & Landscaping	107	26	-36	3																											74	74	74	74	74	74	74																																	
	Worksite S11																																																																				
17	Adit C - Phase 4 Reinstatement of Roads & Landscaping	104	19	-34	3																																		74	74	74	74	74	74	74	74	74	74	74																							
	Worksite S13																																																																				
18	TBM Tunnel Plant at TKW	89	235	-55	3																										37														37																								
19	TBM Tunnel Plant at TKW	102	235	-55	3																										50	50	50																																				
20	TBM Tunnel Plant at TKW	105	235	-55	3																													52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52													
	Worksite S14 (out of C1109 scope, remain unchanged)																																																																			
21	Site Clearance and Erection of hoarding	103	n/a	--	3																																																															
22	Sheeting and Lateral Support System	107	n/a	--	3																																																															
23	Bulk excavation of soft soil and dewatering	109	n/a	--	3																																																															
24	Construct Tunnel	103	n/a	--	3																																																															
25	Backfill and compaction	107	n/a	--	3																																																															
	Worksite S15 (out of C1109 scope, remain unchanged)																																																																			
26	Site Clearance and Erection of hoarding	103	n/a	--	3																																																															
27	Sheeting and Lateral Support System	107	n/a	--	3																																																															
28	Bulk excavation of soft soil and dewatering	109	n/a	--	3																																																															
29	Canopy Pipe Pile Construction	110	n/a	--	3																																																															
30	Construct Tunnel	103	n/a	--	3																																																															
31	Backfill and compaction	107	n/a	--	3																																																															
	Worksite S16 (out of C1109 scope, remain unchanged)																																																																			
32	Site Clearance and Erection of hoarding	103	n/a	--	3																																																															
33	Bulk excavation of soft soil and dewatering	109	n/a	--	3																																																															
34	Construct Tunnel	103	n/a	--	3																																																															
35	Backfill and compaction	107	n/a	--	3																																																															
	Worksite S18																																																																				
36	Bored Piling - Pipe Pile	107	135	-51	3													59	59	59	59	59	59	59	59	59	59	59	59																																											
	Worksite S19																																																																				
37	Pre-bored H Pile	112	250	-56	3									59	59	59	59	59	59	59	59	59	59	59	59	59	59	59																																												
	Predicted Noise Level during Daytime Period, dB(A)												59	62	62	69	69	70	70	70	70	70	70	70	73	73	73	73	73	73	73	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	57	58	58	58	58	58	58	57	57	53	53	53	53									74

Note:

[1] Distance Correction for PMEs = $10*\log(2*PI*r^2)$

[2] The figures are rounded-up to a whole number.

[3] Distance more than 300m from the works area were not assessed

Annex A4-b

Construction Noise Assessment

NSR: TKW-2-2 Skytower Tower 2

No.	Activity Description	SWL dB(A)[2]	Distance m	Corr. for distance dB(A)[1][2]	Corr. for façade dB(A)	Predicted Construction Noise Level (dB(A)) 2012 1	2012 2	2012 3	2012 4	2012 5	2012 6	2012 7	2012 8	2012 9	2012 10	2012 11	2012 12	2013 1	2013 2	2013 3	2013 4	2013 5	2013 6	2013 7	2013 8	2013 9	2013 10	2013 11	2013 12	2014 1	2014 2	2014 3	2014 4	2014 5	2014 6	2014 7	2014 8	2014 9	2014 10	2014 11	2014 12	2015 1	2015 2	2015 3	2015 4	2015 5	2015 6	2015 7	2015 8	2015 9	2015 10	2015 11	2015 12	2016 1	2016 2	2016 3	2016 4	2016 5	2016 6	2016 7	2016 8	2016 9	2016 10	2016 11	2016 12	Max. CNL dB(A)
	Daytime Period																																																																					
	TKW Station + Adit + Underpinning + Launching Shaft																																																																					
	Worksite S1																																																																					
1	Mobilization & Site Setup	110	260	-56	3								57	57	57																																																							
2	Box Culvertt Diversions - North East End of Site	107	260	-56	3													54	54	54	54	54	54	54																																																
3	Grouting/Dewatering - Around Perimetrer of Site	107	260	-56	3								54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54																																			
4	ELS - South West End of site	109	260	-56	3																							56	56	56	56	56	56	56																																			
5	Open Excavation	112	260	-56	3																								59	59	59	59	59	59	59	59	59	59	59	59																													
6	Structure	107	260	-56	3																											54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54															
7	Station Fit Out	106	260	-56	3																																															53	53	53	53	53	53	53	53	53	53	53	53	53	53								
	Worksite S2																																																																					
8	Adit B Phase 1	108	270	-57	3															54	54	54	54	54																																															
	Worksite S3																																																																					
9	Adit B - Phase 2	108	295	-57	3																				53	53	53	53	53	53																																															
	Worksite S4																																																																					
10	Adit B - Phase 3	108	n/a	--	3																																																																		
	Worksite S5																																																																					
11	Adit B - Phase 4 & Reinstatement of Roundabout	108	n/a	--	3																																																																	
	Worksite S6																																																																					
12	Adit B - Phase 5	108	n/a	--	3																																																																	
	Worksite S7																																																																					
13	Adit B - Phase 6	108	n/a	--	3																																																																	
	Worksite S8																																																																					
14	Adit C - Phase 1 & Reinstatement of Roads & Landscaping	107	75	-45	3											65	65	65	65	65	65	65	65																																																	
	Worksite S9																																																																					
15	Adit C - Phase 2 & Reinstatement of Roads & Landscaping	107	55	-43	3																				68	68	68	68	68	68	68																																															
	Worksite S10																																																																					
16	Adit C - Phase 3 & Reinstatement of Roads & Landscaping	107	50	-42	3																											68	68	68	68	68	68	68																																					
	Worksite S11																																																																					
17	Adit C - Phase 4 Reinstatement of Roads & Landscaping	104	30	-38	3																																	70	70	70	70	70	70	70	70	70	70	70	70																								
	Worksite S13																																																																					
18	TBM Tunnel Plant at TKW	89	260	-56	3																										36														36																									
19	TBM Tunnel Plant at TKW	102	260	-56	3																										49	49	49																																					
20	TBM Tunnel Plant at TKW	105	260	-56	3																													51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51															
	Worksite S14 (out of C1109 scope, remain unchanged)																																																																					
21	Site Clearance and Erection of hoarding	103	n/a	--	3																																																																	
22	Sheeting and Lateral Support System	107	n/a	--	3																																																																	
23	Bulk excavation of soft soil and dewatering	109	n/a	--	3																																																																	
24	Construct Tunnel	103	n/a	--	3																																																																	
25	Backfill and compaction	107	n/a	--	3																																																																	
	Worksite S15 (out of C1109 scope, remain unchanged)																																																																					
26	Site Clearance and Erection of hoarding	103	n/a	--	3																																																																
27	Sheeting and Lateral Support System	107	n/a	--	3																																																																	
28	Bulk excavation of soft soil and dewatering	109	n/a	--	3																																																																	
29	Canopy Pipe Pile Construction	110	n/a	--	3																																																																	
30	Construct Tunnel	103	n/a	--	3																																																																	
31	Backfill and compaction	107	n/a	--	3																																																																	
	Worksite S16 (out of C1109 scope, remain unchanged)																																																																					
32	Site Clearance and Erection of hoarding	103	n/a	--	3																																																																
33	Bulk excavation of soft soil and dewatering	109	n/a	--	3																																																																	
34	Construct Tunnel	103	n/a	--	3																																																																	
35	Backfill and compaction	107	n/a	--	3																																																																	
	Worksite S18																																																																					
36	Bored Piling - Pipe Pile	107	175	-53	3													57	57	57	57	57	57	57	57	57	57	57	57																																													
	Worksite S19																																																																					
37	Pre-bored H Pile	112	270	-57	3								58	58	58	58		58	58	58	58	58	58	58	58	58	58	58																																														
	Predicted Noise Level during Daytime Period, dB(A)												58	61	61	66	66	67	67	67	67	67	67	67	69	69	69	69	69	69	69	69	69	69	69	69	69	69	70	70	70	70	70	70	70	70	70	56	57	57	57	57	57	57	56	56	53	53	53	53											70

Note:

[1] Distance Correction for PMEs = $10*\log(2*PI*r^2)$

[2] The figures are rounded-up to a whole number.

[3] Distance more than 300m from the works area were not assessed

Annex A4-c

Construction Noise Assessment

NSR: TKW-3-2 Prosperity House

No.	Activity Description	SWL dB(A)[2]	Distance m	Corr. for distance dB(A)[1][2]	Corr. for façade dB(A)	Max. CNL dB(A)
	Daytime Period					
	TKW Station + Adit + Underpinning + Launching Shaft					
	Worksite S1					
1	Mobilization & Site Setup	110	260	-56	3	
2	Box Culvertt Diversions - North East End of Site	107	260	-56	3	
3	Grouting/Dewatering - Around Perimetrer of Site	107	260	-56	3	
4	ELS - South West End of site	109	260	-56	3	
5	Open Excavation	112	260	-56	3	
6	Structure	107	260	-56	3	
7	Station Fit Out	106	260	-56	3	
	Worksite S2					
8	Adit B Phase 1	108	210	-54	3	
	Worksite S3					
9	Adit B - Phase 2	108	185	-53	3	
	Worksite S4					
10	Adit B - Phase 3	108	155	-52	3	
	Worksite S5					
11	Adit B - Phase 4 & Reinstatement of Roundabout	108	90	-47	3	
	Worksite S6					
12	Adit B - Phase 5	108	14	-31	3	
	Worksite S7					
13	Adit B - Phase 6	108	26	-36	3	
	Worksite S8					
14	Adit C - Phase 1 & Reinstatement of Roads & Landscaping	107	n/a	--	3	
	Worksite S9					
15	Adit C - Phase 2 & Reinstatement of Roads & Landscaping	107	n/a	--	3	
	Worksite S10					
16	Adit C - Phase 3 & Reinstatement of Roads & Landscaping	107	n/a	--	3	
	Worksite S11					
17	Adit C - Phase 4 Reinstatement of Roads & Landscaping	104	n/a	--	3	
	Worksite S13					
18	TBM Tunnel Plant at TKW	89	260	-56	3	
19	TBM Tunnel Plant at TKW	102	260	-56	3	
20	TBM Tunnel Plant at TKW	105	260	-56	3	
	Worksite S14 (out of C1109 scope, remain unchanged)					
21	Site Clearance and Erection of hoarding	103	n/a	--	3	
22	Sheeting and Lateral Support System	107	n/a	--	3	
23	Bulk excavation of soft soil and dewatering	109	n/a	--	3	
24	Construct Tunnel	103	n/a	--	3	
25	Backfill and compaction	107	n/a	--	3	
	Worksite S15 (out of C1109 scope, remain unchanged)					
26	Site Clearance and Erection of hoarding	103	n/a	--	3	
27	Sheeting and Lateral Support System	107	n/a	--	3	
28	Bulk excavation of soft soil and dewatering	109	n/a	--	3	
29	Canopy Pipe Pile Construction	110	n/a	--	3	
30	Construct Tunnel	103	n/a	--	3	
31	Backfill and compaction	107	n/a	--	3	
	Worksite S16 (out of C1109 scope, remain unchanged)					
32	Site Clearance and Erection of hoarding	103	n/a	--	3	
33	Bulk excavation of soft soil and dewatering	109	n/a	--	3	
34	Construct Tunnel	103	n/a	--	3	
35	Backfill and compaction	107	n/a	--	3	
	Worksite S18					
36	Bored Piling - Pipe Pile	107	250	-56	3	
	Worksite S19					
37	Pre-bored H Pile	112	265	-56	3	
	Predicted Noise Level during Daytime Period, dB(A)					80

Predicted Construction Noise Level (dB(A)) — 2012

No.	1	2	3	4	5	6	7	8	9	10	11	12
1								57	57	57		
3								54	54	54	54	54
37									58	58	58	58
Predicted Noise Level during Daytime Period, dB(A)								58	61	61	59	59

Predicted Construction Noise Level (dB(A)) — 2013

No.	1	2	3	4	5	6	7	8	9	10	11	12
2	54	54	54	54	54	54	54					
3	54	54	54	54	54	54	54	54	54	54	54	54
4											56	56
5												59
8			56	56	56	56	56					
9								57	57	57	57	57
11						63	63	63	63	63	63	63
13			74	74	74	74	74	74	74	74	74	74
36	54	54	54	54	54	54	54	54	54	54	54	54
37	58	58	58	58	58	58	58	58	58	58	58	
Predicted Noise Level during Daytime Period, dB(A)	61	61	75	75	75	75	75	75	75	75	75	75

Predicted Construction Noise Level (dB(A)) — 2014

No.	1	2	3	4	5	6	7	8	9	10	11	12
3	54	54	54	54	54	54	54	54				
4	56	56	56	56	56							
5	59	59	59	59	59	59	59	59	59	59	59	
6				54	54	54	54	54	54	54	54	54
9	57											
10		59	59	59	59	59	59					
11	63	63	63	63	63	63	63	63				
12									80	80	80	80
13	74	74	74	74	74	74	74	74				
18		36										
19		49	49	49								
20					51	51	51	51	51	51	51	51
Predicted Noise Level during Daytime Period, dB(A)	75	75	75	75	75	75	75	75	80	80	80	80

Predicted Construction Noise Level (dB(A)) — 2015

No.	1	2	3	4	5	6	7	8	9	10	11	12
6	54	54	54	54	54	54	54	54	54	54	54	54
7										53	53	53
18			36									
20	51	51	51	51	51	51	51	51	51	51	51	51
Predicted Noise Level during Daytime Period, dB(A)	56	56	56	56	56	56	56	56	56	57	57	57

Predicted Construction Noise Level (dB(A)) — 2016

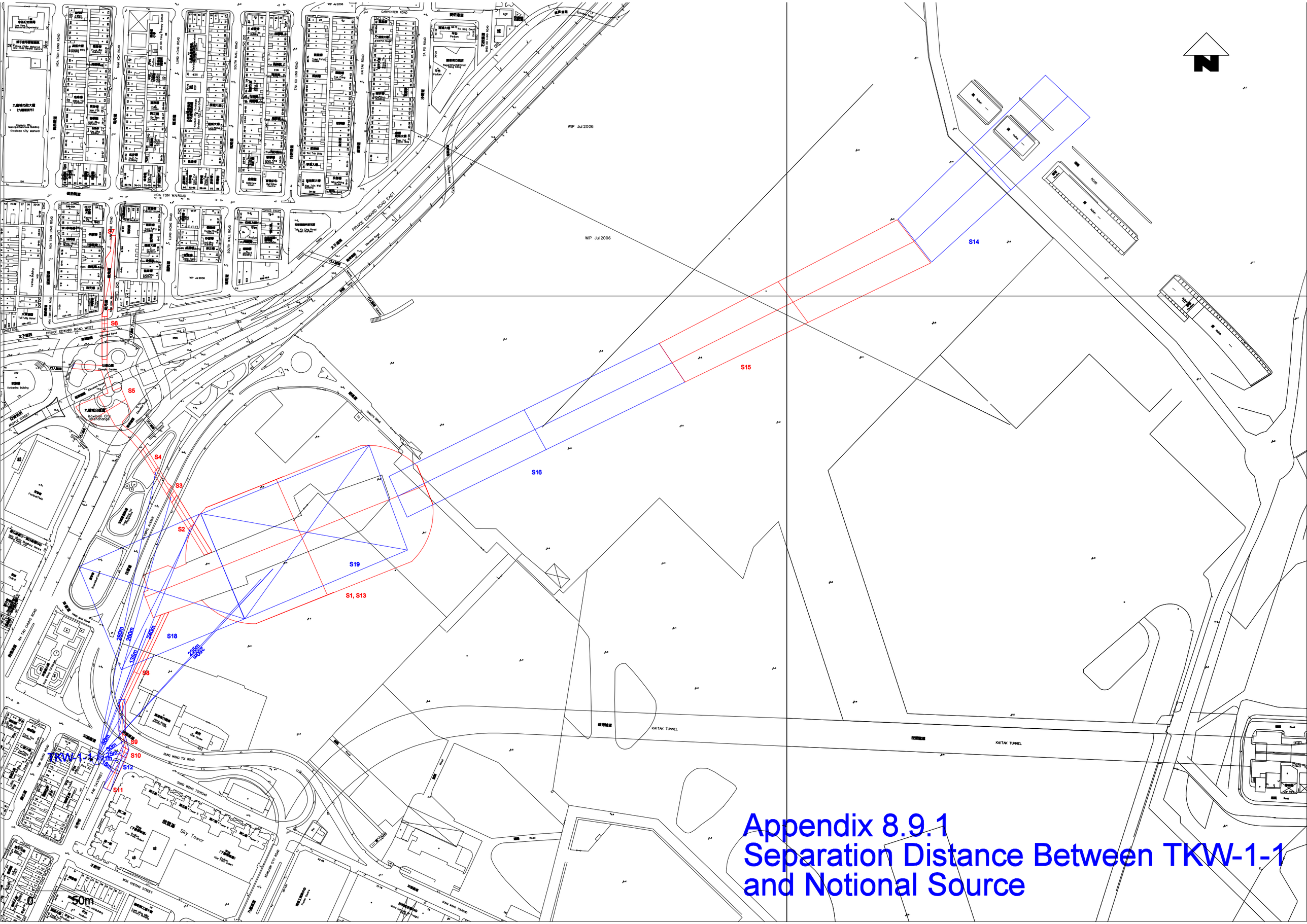
No.	1	2	3	4	5	6	7	8	9	10	11	12
6	54	54	54	54	54							
7	53	53	53	53	53	53	53	53	53			
20	51	51	51									
Predicted Noise Level during Daytime Period, dB(A)	57	57	57	56	56	53	53	53	53			

Note:

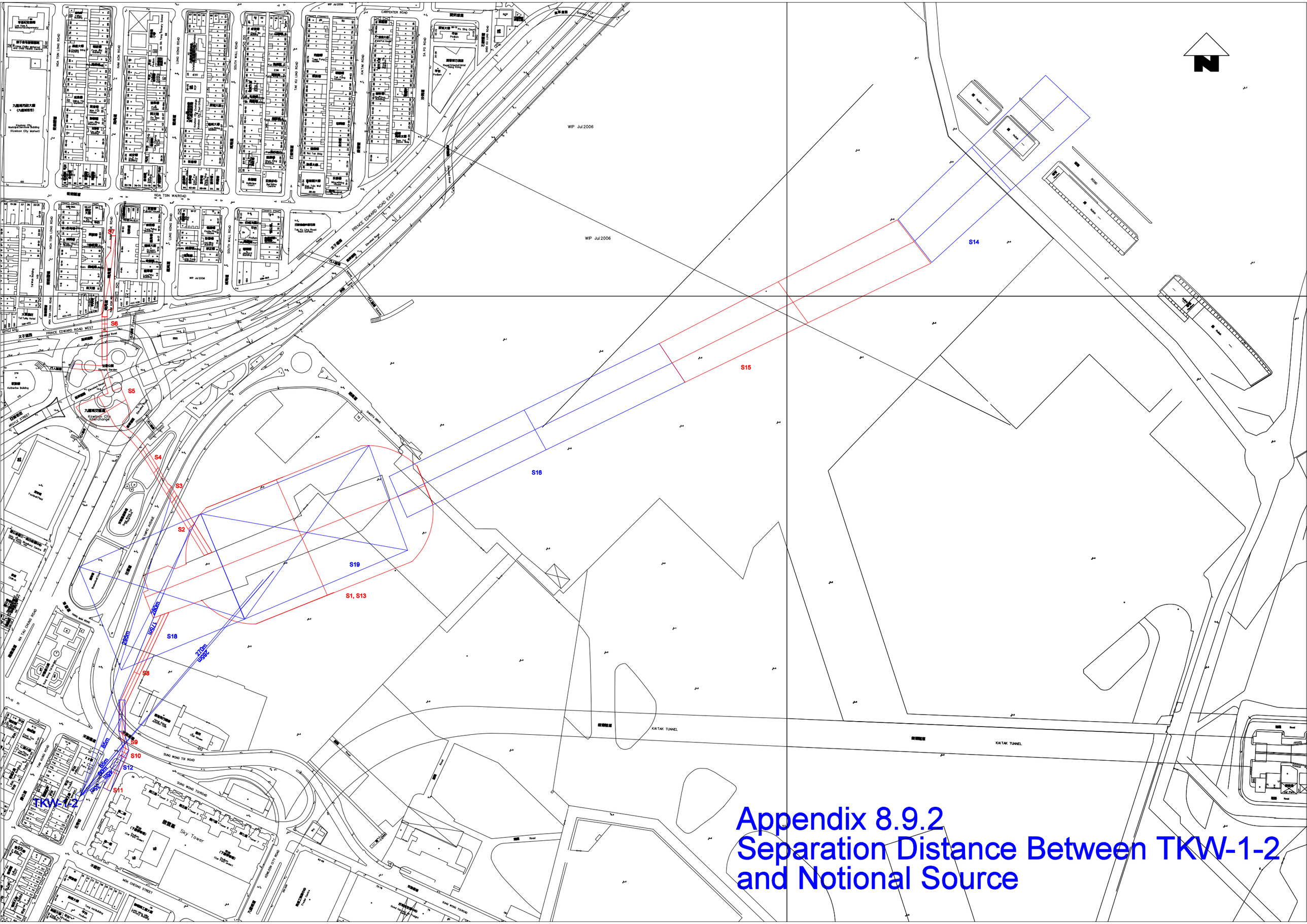
[1] Distance Correction for PMEs = $10*\log(2*PI*r^2)$

[2] The figures are rounded-up to a whole number.

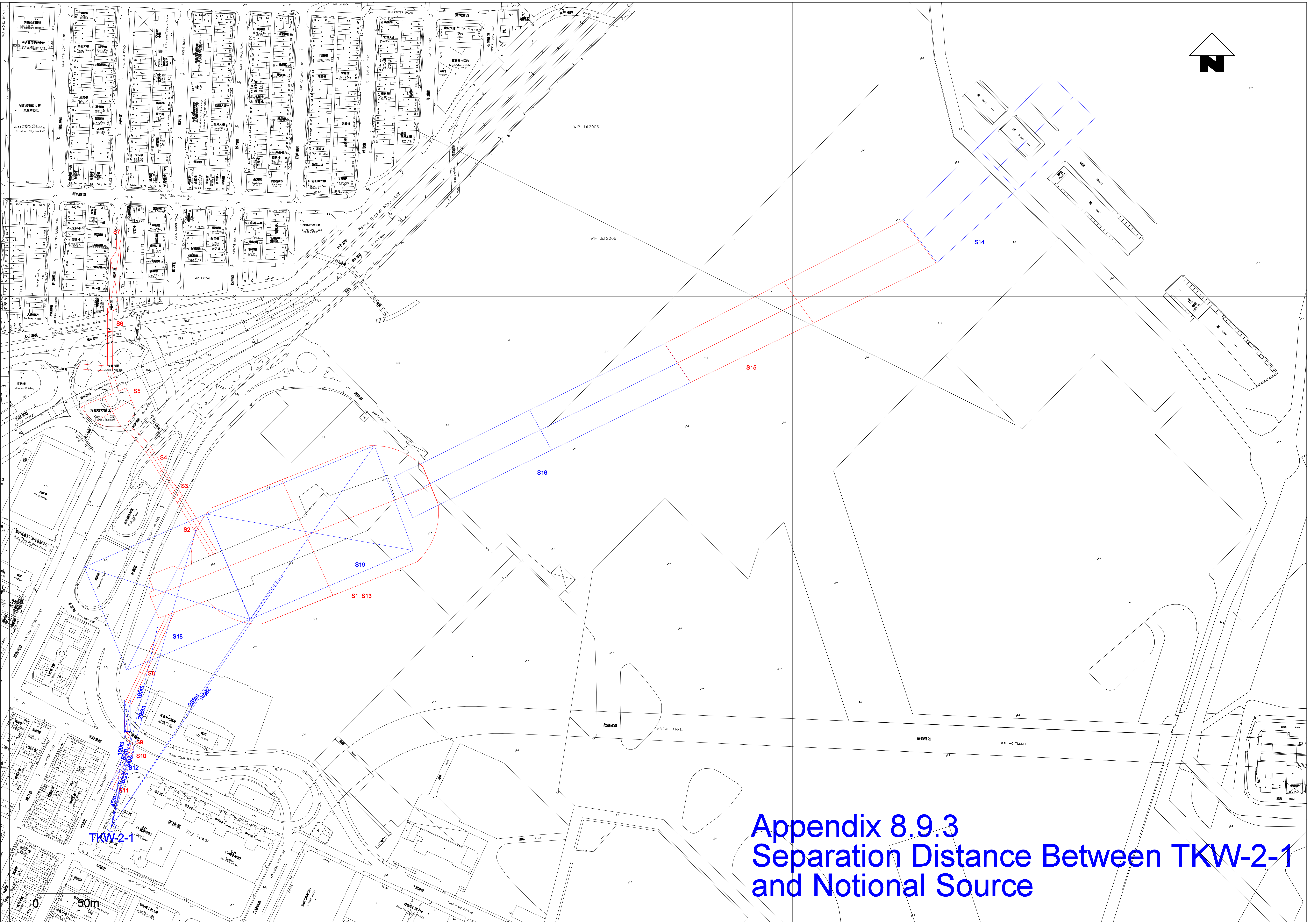
[3] Distance more than 300m from the works area were not assessed



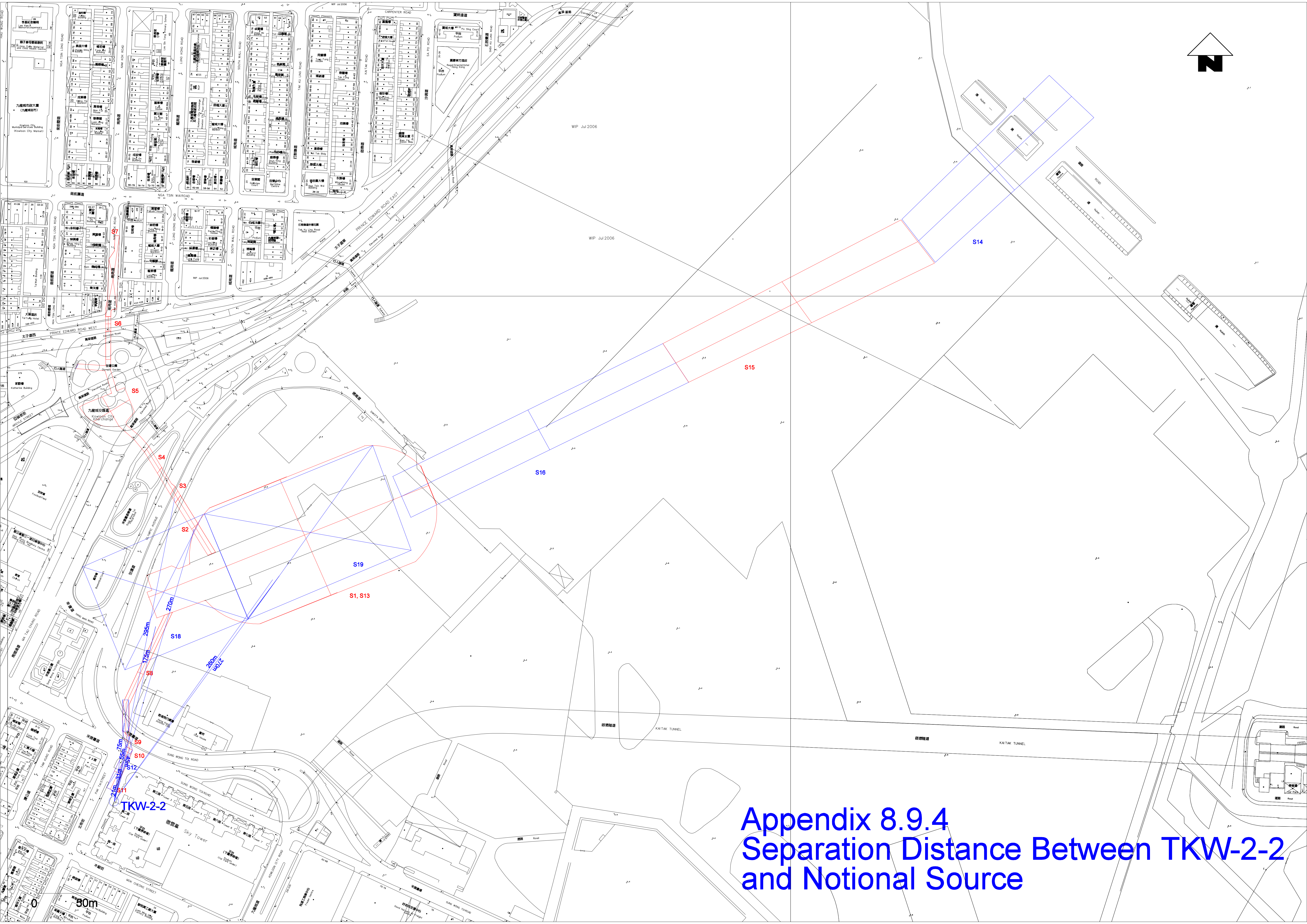
Appendix 8.9.1
Separation Distance Between TKW-1-1 and Notional Source



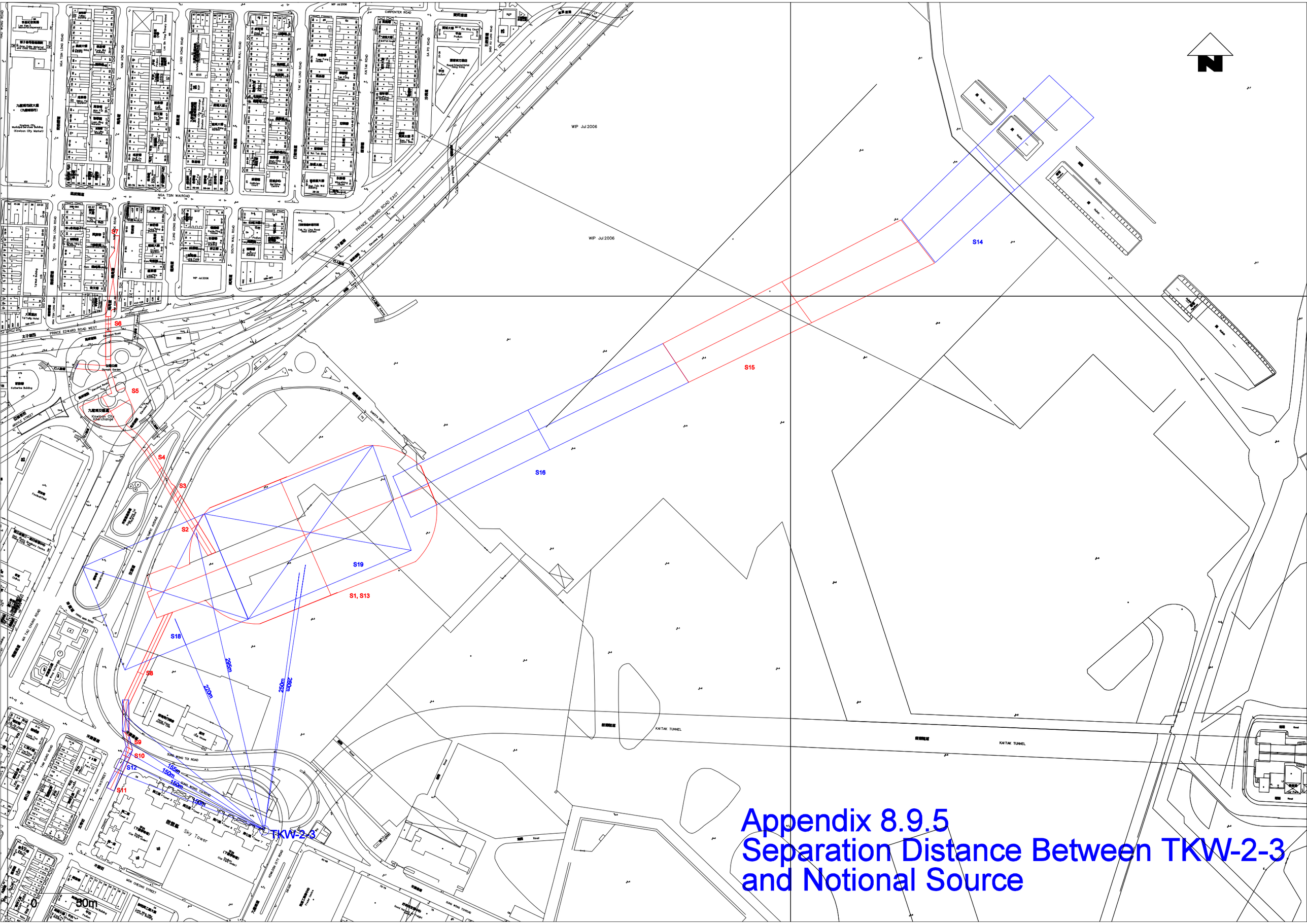
Appendix 8.9.2
Separation Distance Between TKW-1-2 and Notional Source



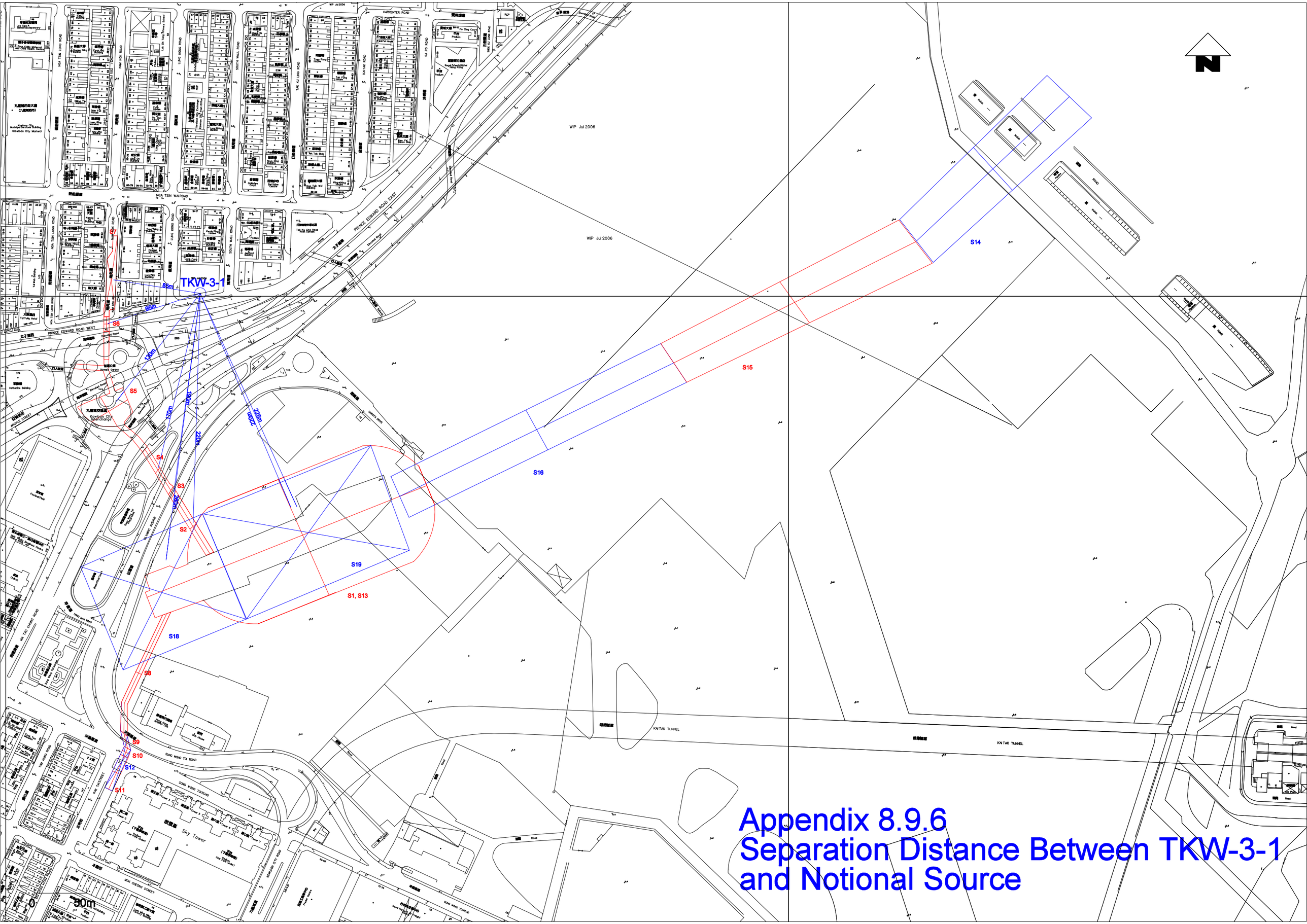
Appendix 8.9.3
Separation Distance Between TKW-2-1 and Notional Source



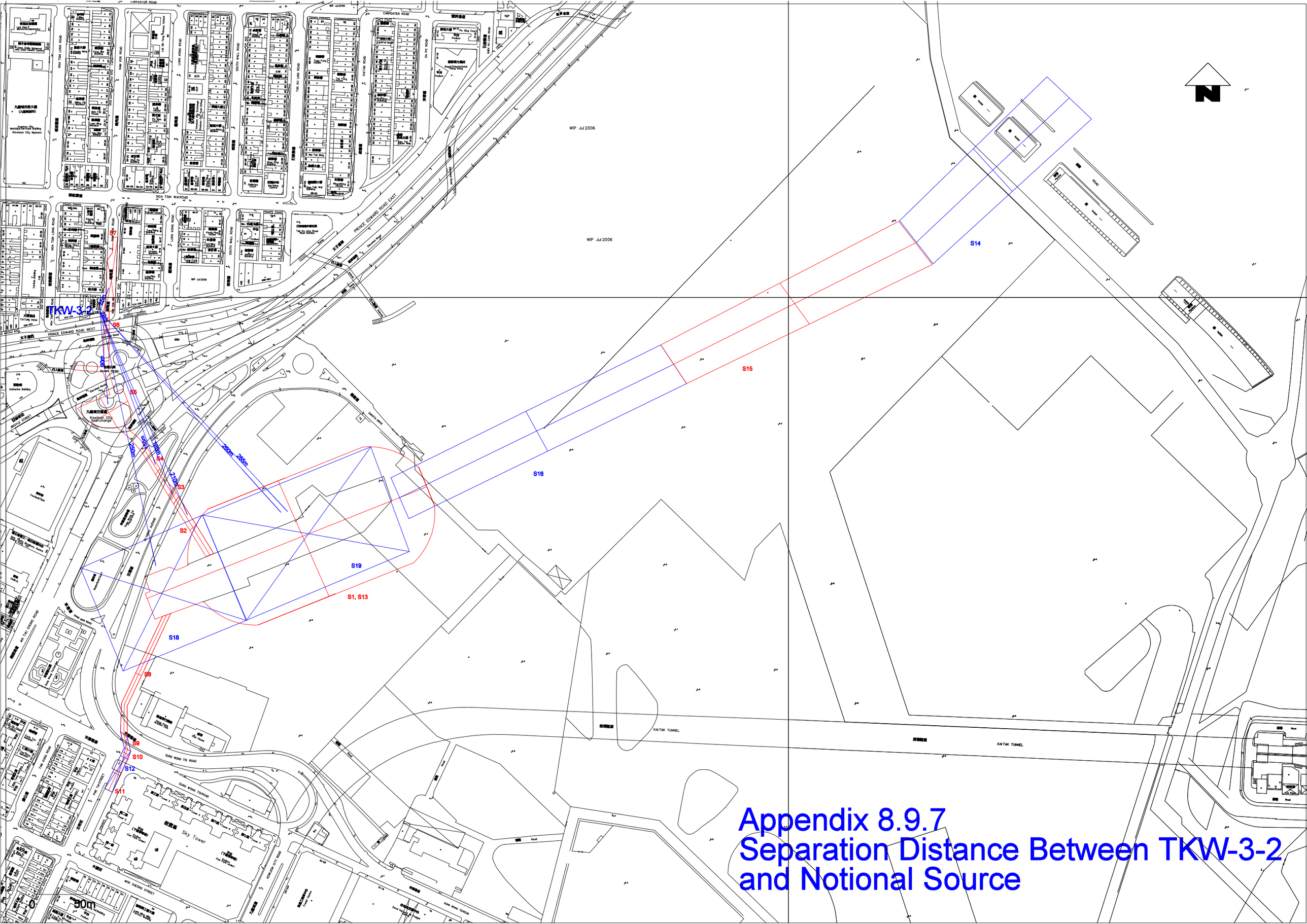
Appendix 8.9.4
Separation Distance Between TKW-2-2 and Notional Source



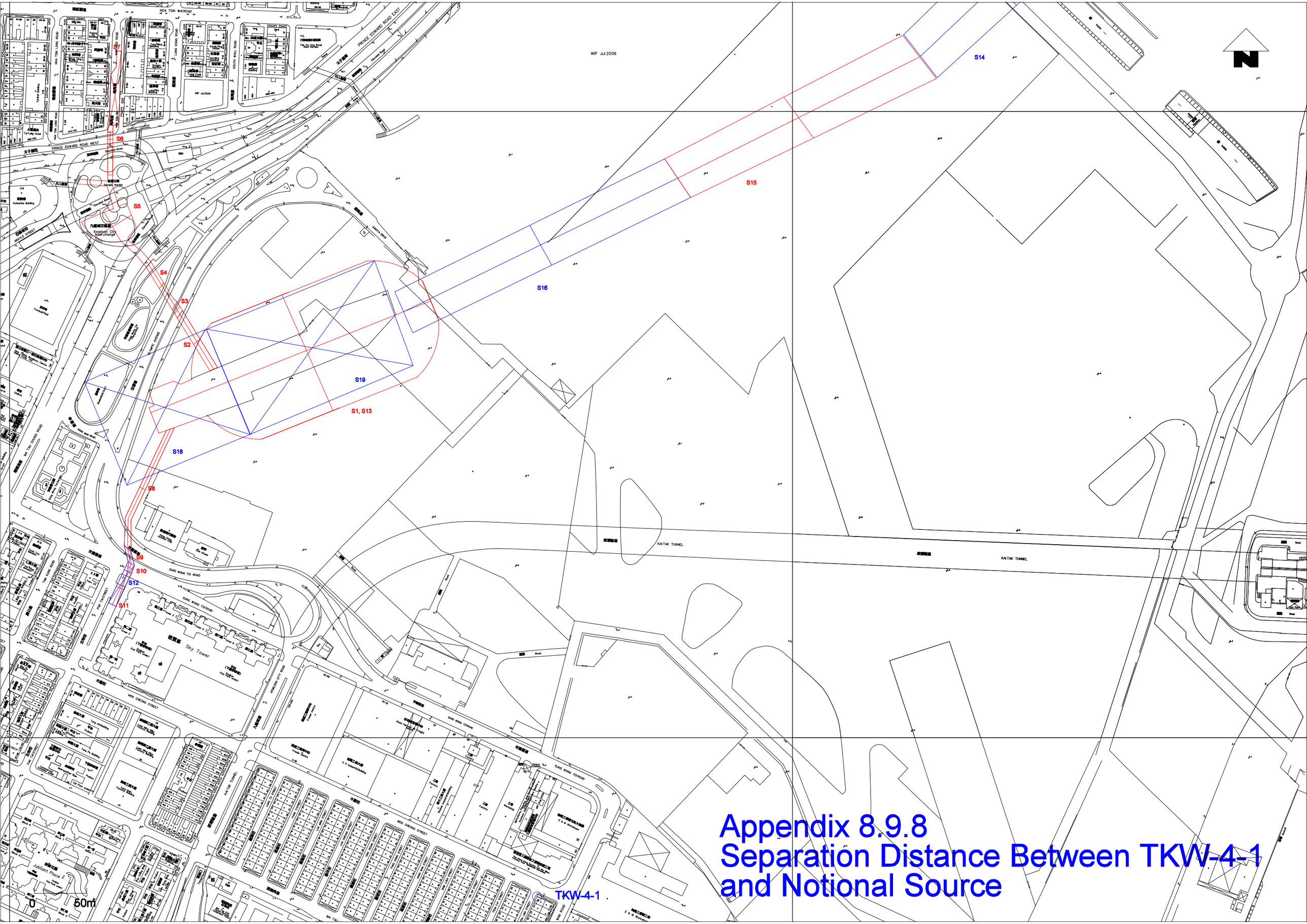
Appendix 8.9.5
Separation Distance Between TKW-2-3 and Notional Source



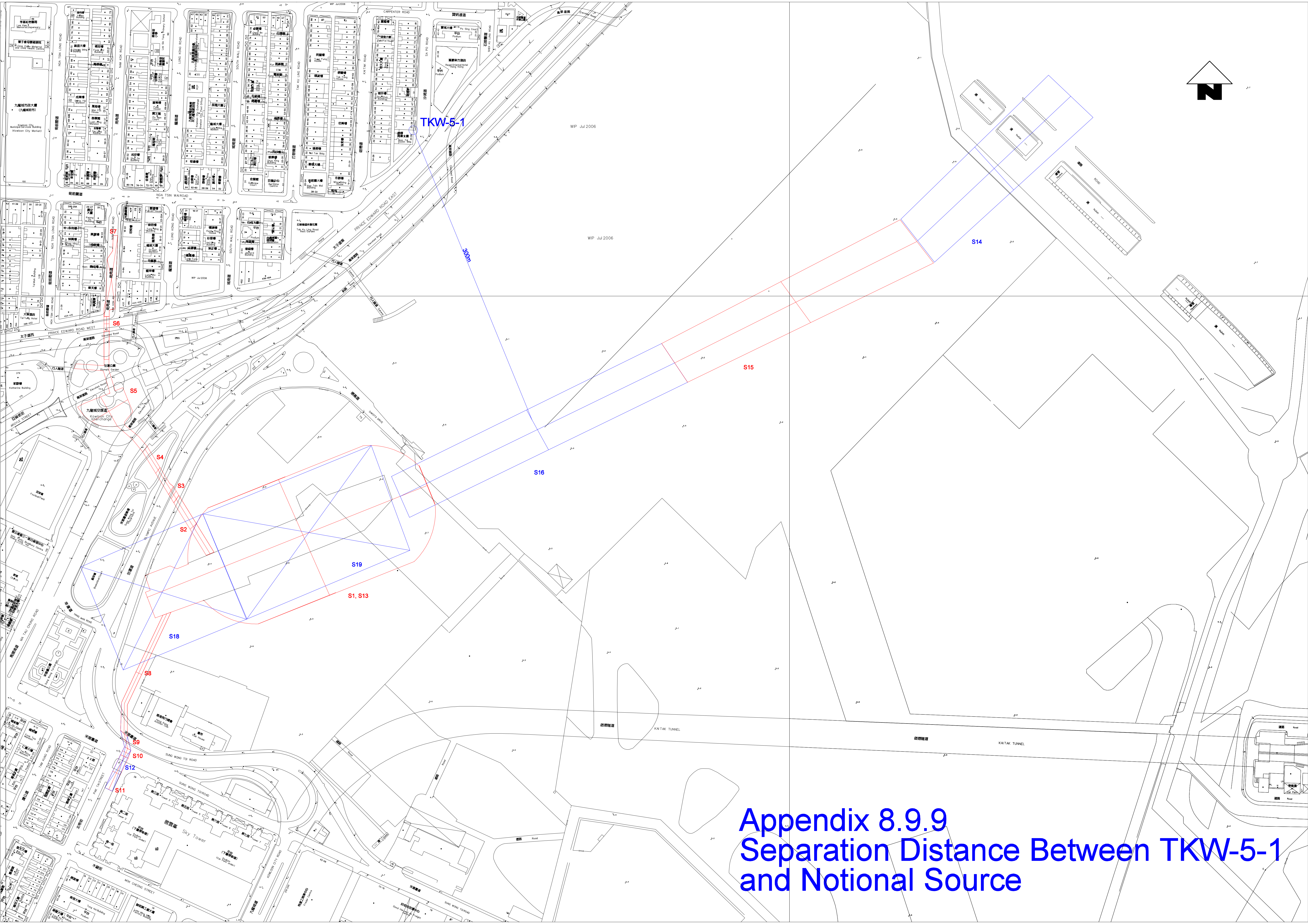
Appendix 8.9.6
Separation Distance Between TKW-3-1 and Notional Source



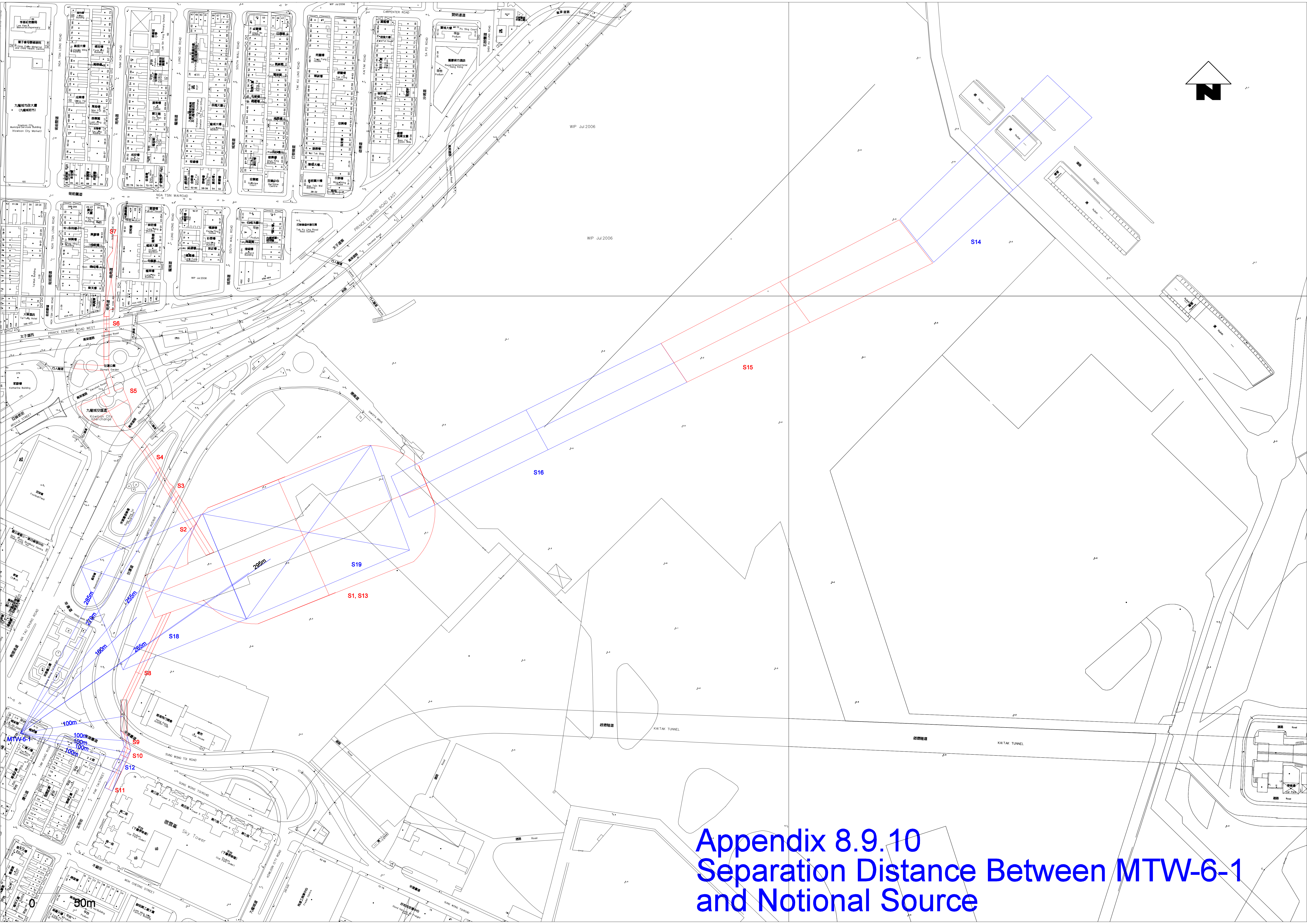
Appendix 8.9.7
Separation Distance Between TKW-3-2 and Notional Source



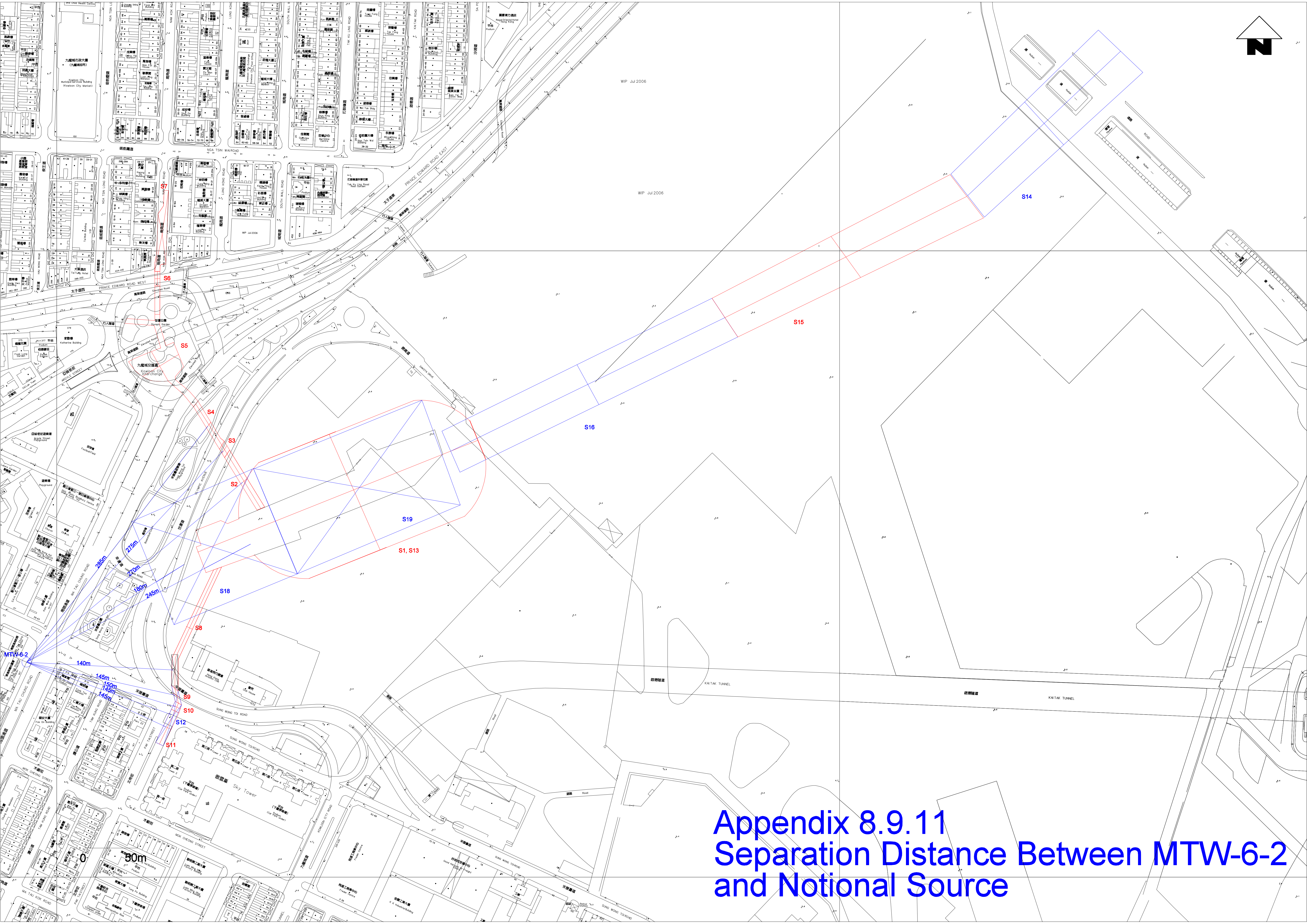
Appendix 8.9.8
Separation Distance Between TKW-4-1 and Notional Source



Appendix 8.9.9
Separation Distance Between TKW-5-1 and Notional Source



Appendix 8.9.10
Separation Distance Between MTW-6-1 and Notional Source



Appendix 8.9.11
Separation Distance Between MTW-6-2 and Notional Source

Annex B

Construction Noise Impact Assessment for MTW

__Annex B-1 : Preliminary Construction Programme__

No.	Activity Description	2012												2013												2014												2015												2016												2017												2018											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
	__Daytime Period__																																																																																				
	MTW Station Construction + EEP																																																																																			
	MTW Stage 1 S1																																																																																			
1	Works in S1																						Y																																																															
2	Works in S1																																						Y																																														
	MTW Stage 1 S2																																																																																			
3	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road																												Y	Y	Y	Y																																																						
4	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road																																						Y	Y																																													
	MTW Stage 1 S4																																																																																			
5	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road																															Y	Y	Y	Y																																																				
6	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road																																							Y	Y																																												
	MTW Stage 1 S6																																																																																				
7	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road																																		Y	Y	Y	Y	Y																																																		
8	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road																																								Y	Y																																											
	MTW Stage 1 S8																																																																																				
9	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road																									Y	Y	Y	Y	Y	Y	Y																																																									
10	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road																																							Y	Y	Y																																											
	MTW Stage 1 S10																																																																																			
11	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road																																		Y	Y	Y	Y																																																				
12	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road																																						Y	Y																																													
	MTW Stage 1 S12																																																																																				
13	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road																										Y	Y	Y	Y																																																											
14	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road																																						Y	Y																																													
	MTW Stage 1 S14																																																																																				
15	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road																													Y	Y	Y	Y																																																						
16	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road																																		Y	Y																																																					
	MTW Stage 1 S16																																																																																				
17	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road																																Y	Y	Y	Y																																																	
18	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road																																				Y	Y																																																		
	MTW Stage 1 S18																																																																																				
19	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road																										Y	Y	Y																																																										
20	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road																																	Y	Y																																																				
	MTW Stage 1 S20																																																																																					
21	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road																															Y	Y	Y																																																				
22	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road																																			Y	Y																																																		
	MTW Stage 1 S21																																																																																				
23	Works in S21																						Y																																																																
24	Works in S21																																						Y																																														
	MTW Stage 1 & 2 S22																																																																																				
25	Entrance and Adits																																												Y	Y																																							
26	Entrance and Adits																																													Y	Y	Y	Y	Y																																			
27	Entrance and Adits																																													Y	Y																																						
28	Entrance and Adits																																														Y	Y	Y	Y																																			
	MTW Stage 1 & 2 S24																																																																																				
29	Entrance and Adits																																						Y	Y																																													
30	Entrance and Adits																																							Y	Y	Y																																											
31	Entrance and Adits																																							Y																																													
32	Entrance and Adits																																								Y	Y	Y																																									
	MTW Stage 2 &3 S26																																																																																				
33	Entrance and Adits													Y	Y	Y																																																																						
34	Entrance and Adits														Y	Y	Y	Y	Y	Y	Y	Y																																																																
35	Entrance and Adits														Y	Y	Y																																																																					
36	Entrance and Adits																Y	Y	Y	Y	Y	Y																																																																
37	Entrance and Adits																						Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y																												
	MTW Stage 2 & 3 S28																																																																																				
38	Entrance and Adits																Y	Y	Y																																																																		
39	Entrance and Adits																	Y	Y	Y	Y	Y	Y	Y	Y																																																											
40	Entrance and Adits																	Y	Y	Y																																																																	
41	Entrance and Adits																			Y	Y	Y	Y	Y	Y																																																												
42	Entrance and Adits																Y	Y	Y	Y	Y	Y	Y	Y	Y																																																											
43	Entrance and Adits																									Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y																												
	MTW Stage 2 S30																																																																																			
44	Roof Slab East Side of Ma Tau Wai Road												Y	Y	Y	Y	Y	Y																																																																				
45	Roof Slab East Side of Ma Tau Wai Road																	Y	Y																																																																			
46	Roof Slab East Side of Ma Tau Wai Road																	Y	Y	Y																																																																		
	MTW Stage 2 S32																																																																																			
47	Roof Slab East Side of Ma Tau Wai Road																	Y	Y	Y	Y	Y																																																															
48	Roof Slab East Side of Ma Tau Wai Road																					Y	Y																																																																
49	Roof Slab East Side of Ma Tau Wai Road																						Y	Y	Y																																																													
	MTW Stage 2 S34																																																																																			
50	Roof Slab East Side of Ma Tau Wai Road																				Y	Y	Y	Y																																																														
51	Roof Slab East Side of Ma Tau Wai Road																						Y	Y																																																														
52	Roof Slab East Side of Ma Tau Wai Road																							Y	Y																																																													
	MTW Stage 2 S36																																																																																			
53	Roof Slab East Side of Ma Tau Wai Road																								Y	Y	Y	Y																																																												
54	Roof Slab East Side of Ma Tau Wai Road																Y	Y																																																																				

55	Roof Slab East Side of Ma Tau Wai Road																	Y	Y																																																																		
	MTW Stage 2 S38																																																																																				
56	Roof Slab East Side of Ma Tau Wai Road													Y	Y	Y																																																																							
57	Roof Slab East Side of Ma Tau Wai Road																Y	Y	Y																																																																			
58	Roof Slab East Side of Ma Tau Wai Road																Y	Y	Y	Y	Y																																																																	
	MTW Stage 2 & 3 S40																																																																																				
59	Roof Slab West Side of Ma Tau Wai Road																		Y	Y	Y																																																																	
60	Roof Slab West Side of Ma Tau Wai Road																			Y	Y	Y																																																																
	MTW Stage 1 & 2 S42																																																																																				
61	Roof Slab West Side of Ma Tau Wai Road																Y	Y	Y	Y																																																																		
62	Roof Slab West Side of Ma Tau Wai Road																			Y	Y	Y	Y																																																															
	MTW Stage 3 S50																																																																																				
63	Top Down Construction																																				Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y																																				
64	Top Down Construction																																				Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y																																		
	MTW Stage 3 S52																																																																																				
65	Top Down Construction																																				Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y																																				
66	Top Down Construction																																				Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y																																		
	MTW Stage 3 S54																																																																																				
67	Top Down Construction																																				Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y																																				
68	Top Down Construction																																				Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y																																		
	MTW Stage 3 S56																																																																																				
69	Top Down Construction																																				Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y																																				
70	Top Down Construction																																				Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y																																		
	MTW Stage 3 S58																																																																																				
71	Top Down Construction																																				Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y																																				
72	Top Down Construction																																				Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y																																		
	MTW Stage 3 S60																																																																																				
73	Top Down Construction																																				Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y																																				
74	Top Down Construction																																				Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y																																		
	MTW TKW Garden																																																																																				
75	Bentonite Plant												Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y																																								
	MTW SSS																																																																																				
76	Storage Area |||||||||||Y|Y|Y|Y|																																																																																						
77	Storage Area															Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y							
	EKW Pier 15																																																																																				
80	Pier Work																									Y	Y																																																										
81	Pier Work																								Y	Y	Y																																																										
82	Pier Work																											Y																																																									
83	Pier Work																												Y	Y																																																							
84	Pier Work																															Y	Y	Y	Y	Y	Y	Y	Y	Y																																													
	Worksite EEP																																																																																				
85	Shaft																												Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y																															

Contract SCL 1109
Sung Won Toi and To Kwa Wan Stations and Tunnels
MTW Station Construction + EEP

Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S1**									
1	**Works in S1**	Excavator / loader, wheeled / tracked	BS D3 35	1	80%	Barrier	-5	106	100	**100**
		Generator, portable	CNP 107	1	10%	Enclosure	-5	100	85	
2	**Works in S1**	Grout mixer	CNP 105	1	50%	Enclosure	-5	90	82	**97**
		Grout pump	CNP 106	1	50%	Enclosure	-5	105	97	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

Contract SCL 1109
Sung Won Toi and To Kwa Wan Stations and Tunnels
MTW Station Construction + EEP

Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S2 - Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road**									
3	**Diaphragm Wall, Cross Wall &**	Trench Cutter	BS D3 106	1	90%	Enclosure	-10	105	95	**100**
	Roof Slab West Side of Ma Tau Wai Road	Crane, mobile / barge mounted (diesel)	BS D7 114	1	90%	Barrier	-5	101	96	
		Lorry	BS D9 19	1	90%	Barrier	-5	102	97	
4	**Diaphragm Wall, Cross Wall &**	Giken Pile Rig	--	1	10%	Barrier	-5	101	86	**103**
	Roof Slab West Side of Ma Tau Wai Road	Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	1	10%	Barrier	-5	106	91	
		Excavator / loader, wheeled / tracked	BS D3 35	1	50%	Barrier	-5	106	98	
		Breaker, excavator mounted (hydraulic)	BS D8 13	1	20%	Barrier	-5	110	98	
		Poker, vibratory, hand held	BS D6 40	1	10%	Barrier	-5	98	83	
		Generator (Silenced)	CNP 103	1	60%	Enclosure	-10	95	83	
		Dump truck	BS D3 60	1	50%	Barrier	-5	104	96	
		Concrete lorry mixer	BS D6 23	1	20%	Barrier	-5	100	88	
		Dump truck	BS D3 60	1	20%	Barrier	-5	104	92	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S4 - Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road**									
5	**Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road**	Trench Cutter	BS D3 106	1	90%	Enclosure	-10	105	95	**100**
		Crane, mobile / barge mounted (diesel)	BS D7 114	1	90%	Barrier	-5	101	96	
		Lorry	BS D9 19	1	90%	Barrier	-5	102	97	
6	**Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road**	Giken Pile Rig	--	1	10%	Barrier	-5	101	86	**103**
		Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	1	10%	Barrier	-5	106	91	
		Excavator / loader, wheeled / tracked	BS D3 35	1	50%	Barrier	-5	106	98	
		Breaker, excavator mounted (hydraulic)	BS D8 13	1	20%	Barrier	-5	110	98	
		Poker, vibratory, hand held	BS D6 40	1	10%	Barrier	-5	98	83	
		Generator (Silenced)	CNP 103	1	60%	Enclosure	-10	95	83	
		Dump truck	BS D3 60	1	50%	Barrier	-5	104	96	
		Concrete lorry mixer	BS D6 23	1	20%	Barrier	-5	100	88	
		Dump truck	BS D3 60	1	20%	Barrier	-5	104	92	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S6 - Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road**									
7	**Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road**	Trench Cutter	BS D3 106	1	90%	Enclosure	-10	105	95	**100**
		Crane, mobile / barge mounted (diesel)	BS D7 114	1	90%	Barrier	-5	101	96	
		Lorry	BS D9 19	1	90%	Barrier	-5	102	97	
8	**Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road**	Giken Pile Rig	--	1	10%	Barrier	-5	101	86	**103**
		Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	1	10%	Barrier	-5	106	91	
		Excavator / loader, wheeled / tracked	BS D3 35	1	50%	Barrier	-5	106	98	
		Breaker, excavator mounted (hydraulic)	BS D8 13	1	20%	Barrier	-5	110	98	
		Poker, vibratory, hand held	BS D6 40	1	10%	Barrier	-5	98	83	
		Generator (Silenced)	CNP 103	1	60%	Enclosure	-10	95	83	
		Dump truck	BS D3 60	1	50%	Barrier	-5	104	96	
		Concrete lorry mixer	BS D6 23	1	20%	Barrier	-5	100	88	
		Dump truck	BS D3 60	1	20%	Barrier	-5	104	92	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S8 - Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road**									
9	**Diaphragm Wall, Cross Wall &**	Trench Cutter	BS D3 106	1	90%	Enclosure	-10	105	95	**100**
	Roof Slab West Side of Ma Tau Wai Road	Crane, mobile / barge mounted (diesel)	BS D7 114	1	90%	Barrier	-5	101	96	
		Lorry	BS D9 19	1	90%	Barrier	-5	102	97	
10	**Diaphragm Wall, Cross Wall &**	Giken Pile Rig	--	1	10%	Barrier	-5	101	86	**103**
	Roof Slab West Side of Ma Tau Wai Road	Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	1	10%	Barrier	-5	106	91	
		Excavator / loader, wheeled / tracked	BS D3 35	1	50%	Barrier	-5	106	98	
		Breaker, excavator mounted (hydraulic)	BS D8 13	1	20%	Barrier	-5	110	98	
		Poker, vibratory, hand held	BS D6 40	1	10%	Barrier	-5	98	83	
		Generator (Silenced)	CNP 103	1	60%	Enclosure	-10	95	83	
		Dump truck	BS D3 60	1	50%	Barrier	-5	104	96	
		Concrete lorry mixer	BS D6 23	1	20%	Barrier	-5	100	88	
		Dump truck	BS D3 60	1	20%	Barrier	-5	104	92	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
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[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S10 - Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road**									
11	**Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road**	Trench Cutter	BS D3 106	1	90%	Enclosure	-10	105	95	**100**
		Crane, mobile / barge mounted (diesel)	BS D7 114	1	90%	Barrier	-5	101	96	
		Lorry	BS D9 19	1	90%	Barrier	-5	102	97	
12	**Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road**	Giken Pile Rig	--	1	10%	Barrier	-5	101	86	**103**
		Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	1	10%	Barrier	-5	106	91	
		Excavator / loader, wheeled / tracked	BS D3 35	1	50%	Barrier	-5	106	98	
		Breaker, excavator mounted (hydraulic)	BS D8 13	1	20%	Barrier	-5	110	98	
		Poker, vibratory, hand held	BS D6 40	1	10%	Barrier	-5	98	83	
		Generator (Silenced)	CNP 103	1	60%	Enclosure	-10	95	83	
		Dump truck	BS D3 60	1	50%	Barrier	-5	104	96	
		Concrete lorry mixer	BS D6 23	1	20%	Barrier	-5	100	88	
		Dump truck	BS D3 60	1	20%	Barrier	-5	104	92	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S12 - Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road**									
13	**Diaphragm Wall, Cross Wall &**	Trench Cutter	BS D3 106	1	90%	Enclosure	-10	105	95	**100**
	Roof Slab West Side of Ma Tau Wai Road	Crane, mobile / barge mounted (diesel)	BS D7 114	1	90%	Barrier	-5	101	96	
		Lorry	BS D9 19	1	90%	Barrier	-5	102	97	
14	**Diaphragm Wall, Cross Wall &**	Giken Pile Rig	--	1	10%	Barrier	-5	101	86	**103**
	Roof Slab West Side of Ma Tau Wai Road	Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	1	10%	Barrier	-5	106	91	
		Excavator / loader, wheeled / tracked	BS D3 35	1	50%	Barrier	-5	106	98	
		Breaker, excavator mounted (hydraulic)	BS D8 13	1	20%	Barrier	-5	110	98	
		Poker, vibratory, hand held	BS D6 40	1	10%	Barrier	-5	98	83	
		Generator (Silenced)	CNP 103	1	60%	Enclosure	-10	95	83	
		Dump truck	BS D3 60	1	50%	Barrier	-5	104	96	
		Concrete lorry mixer	BS D6 23	1	20%	Barrier	-5	100	88	
		Dump truck	BS D3 60	1	20%	Barrier	-5	104	92	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S14 - Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road**									
15	**Diaphragm Wall, Cross Wall &**	Trench Cutter	BS D3 106	1	90%	Enclosure	-10	105	95	**100**
	Roof Slab West Side of Ma Tau Wai Road	Crane, mobile / barge mounted (diesel)	BS D7 114	1	90%	Barrier	-5	101	96	
		Lorry	BS D9 19	1	90%	Barrier	-5	102	97	
16	**Diaphragm Wall, Cross Wall &**	Giken Pile Rig	--	1	10%	Barrier	-5	101	86	**103**
	Roof Slab West Side of Ma Tau Wai Road	Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	1	10%	Barrier	-5	106	91	
		Excavator / loader, wheeled / tracked	BS D3 35	1	50%	Barrier	-5	106	98	
		Breaker, excavator mounted (hydraulic)	BS D8 13	1	20%	Barrier	-5	110	98	
		Poker, vibratory, hand held	BS D6 40	1	10%	Barrier	-5	98	83	
		Generator (Silenced)	CNP 103	1	60%	Enclosure	-10	95	83	
		Dump truck	BS D3 60	1	50%	Barrier	-5	104	96	
		Concrete lorry mixer	BS D6 23	1	20%	Barrier	-5	100	88	
		Dump truck	BS D3 60	1	20%	Barrier	-5	104	92	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
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[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S16 - Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road**									
17	**Diaphragm Wall, Cross Wall &**	Trench Cutter	BS D3 106	2	90%	Enclosure	-10	105	98	**103**
	Roof Slab West Side of Ma Tau Wai Road	Crane, mobile / barge mounted (diesel)	BS D7 114	2	90%	Barrier	-5	101	99	
		Lorry	BS D9 19	2	90%	Barrier	-5	102	100	
18	**Diaphragm Wall, Cross Wall &**	Giken Pile Rig	--	2	10%	Barrier	-5	101	89	**106**
	Roof Slab West Side of Ma Tau Wai Road	Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	2	10%	Barrier	-5	106	94	
		Excavator / loader, wheeled / tracked	BS D3 35	2	50%	Barrier	-5	106	101	
		Breaker, excavator mounted (hydraulic)	BS D8 13	2	20%	Barrier	-5	110	101	
		Poker, vibratory, hand held	BS D6 40	2	10%	Barrier	-5	98	86	
		Generator (Silenced)	CNP 103	2	60%	Enclosure	-10	95	86	
		Dump truck	BS D3 60	2	50%	Barrier	-5	104	99	
		Concrete lorry mixer	BS D6 23	2	20%	Barrier	-5	100	91	
		Dump truck	BS D3 60	2	20%	Barrier	-5	104	95	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S18 - Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road**									
19	**Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road**	Trench Cutter	BS D3 106	2	90%	Enclosure	-10	105	98	**103**
		Crane, mobile / barge mounted (diesel)	BS D7 114	2	90%	Barrier	-5	101	99	
		Lorry	BS D9 19	2	90%	Barrier	-5	102	100	
20	**Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road**	Giken Pile Rig	--	2	10%	Barrier	-5	101	89	**106**
		Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	2	10%	Barrier	-5	106	94	
		Excavator / loader, wheeled / tracked	BS D3 35	2	50%	Barrier	-5	106	101	
		Breaker, excavator mounted (hydraulic)	BS D8 13	2	20%	Barrier	-5	110	101	
		Poker, vibratory, hand held	BS D6 40	2	10%	Barrier	-5	98	86	
		Generator (Silenced)	CNP 103	2	60%	Enclosure	-10	95	86	
		Dump truck	BS D3 60	2	50%	Barrier	-5	104	99	
		Concrete lorry mixer	BS D6 23	2	20%	Barrier	-5	100	91	
		Dump truck	BS D3 60	2	20%	Barrier	-5	104	95	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
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[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S20 - Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road**									
21	**Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road**	Trench Cutter	BS D3 106	1	90%	Enclosure	-10	105	95	**100**
		Crane, mobile / barge mounted (diesel)	BS D7 114	1	90%	Barrier	-5	101	96	
		Lorry	BS D9 19	1	90%	Barrier	-5	102	97	
22	**Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road**	Giken Pile Rig	--	1	10%	Barrier	-5	101	86	**103**
		Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	1	10%	Barrier	-5	106	91	
		Excavator / loader, wheeled / tracked	BS D3 35	1	50%	Barrier	-5	106	98	
		Breaker, excavator mounted (hydraulic)	BS D8 13	1	20%	Barrier	-5	110	98	
		Poker, vibratory, hand held	BS D6 40	1	10%	Barrier	-5	98	83	
		Generator (Silenced)	CNP 103	1	60%	Enclosure	-10	95	83	
		Dump truck	BS D3 60	1	50%	Barrier	-5	104	96	
		Concrete lorry mixer	BS D6 23	1	20%	Barrier	-5	100	88	
		Dump truck	BS D3 60	1	20%	Barrier	-5	104	92	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
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[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S21**									
23	**Works in S21**	Excavator / loader, wheeled / tracked	BS D3 35	1	80%	Barrier	-5	106	100	**100**
		Generator, portable	CNP 107	1	10%	Enclosure	-5	100	85	
24	**Works in S21**	Grout mixer	CNP 105	1	50%	Enclosure	-5	90	82	**97**
		Grout pump	CNP 106	1	50%	Enclosure	-5	105	97	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	Worksite S22 - Entrance & Adits									
25	**Entrance & Adits**	Piling, large dia bored, RCD	CNP 166	2	90%	Enclosure	-10	100	93	**93**
26	**Entrance & Adits**	Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	1	50%	Barrier	-5	106	98	**98**
27	**Entrance & Adits**	Breaker, excavator mounted (hydraulic)	BS D8 13	1	60%	Barrier	-5	110	103	**103**
28	**Entrance & Adits**	Excavator / loader, wheeled / tracked	BS D3 35	1	90%	Barrier	-5	106	101	**103**
		Poker, vibratory, hand held	BS D6 40	1	10%	Barrier	-5	98	83	
		Generator (Silenced)	CNP 103	1	50%	Enclosure	-10	95	82	
		Dump truck	BS D3 60	1	90%	Barrier	-5	104	99	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	Worksite S24 - Entrance & Adits									
29	**Entrance & Adits**	Piling, large dia bored, RCD	CNP 166	4	90%	Enclosure	-10	100	96	**96**
30	**Entrance & Adits**	Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	1	50%	Barrier	-5	106	98	**98**
31	**Entrance & Adits**	Breaker, excavator mounted (hydraulic)	BS D8 13	1	60%	Barrier	-5	110	103	**103**
32	**Entrance & Adits**	Excavator / loader, wheeled / tracked	BS D3 35	1	90%	Barrier	-5	106	101	**103**
		Poker, vibratory, hand held	BS D6 40	1	10%	Barrier	-5	98	83	
		Generator (Silenced)	CNP 103	1	50%	Enclosure	-10	95	82	
		Dump truck	BS D3 60	1	90%	Barrier	-5	104	99	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	Worksite S26 - Diaphragm Wall Support									
33	**Entrance & Adits**	Piling, large dia bored, RCD	CNP 166	2	90%	Enclosure	-10	100	93	**93**
34	**Entrance & Adits**	Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	1	50%	Barrier	-5	106	98	**98**
35	**Entrance & Adits**	Breaker, excavator mounted (hydraulic)	BS D8 13	1	60%	Barrier	-5	110	103	**103**
36	**Entrance & Adits**	Excavator / loader, wheeled / tracked	BS D3 35	1	90%	Barrier	-5	106	101	**103**
		Poker, vibratory, hand held	BS D6 40	1	10%	Barrier	-5	98	83	
		Generator (Silenced)	CNP 103	1	50%	Enclosure	-10	95	82	
		Dump truck	BS D3 60	1	90%	Barrier	-5	104	99	
		Bar bender and cutter (electric)	CNP 021	1	70%		0	90	88	
		Lorry	BS D9 19	1	10%	Barrier	-5	102	87	
37	**Entrance & Adits**	Generator (Silenced)	CNP 103	1	50%	Enclosure	-10	95	82	**91**
		Bar bender and cutter (electric)	CNP 021	1	70%		0	90	88	
		Lorry	BS D9 19	1	10%	Barrier	-5	102	87	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	Worksite S28 - Diaphragm Wall Support									
38	**Entrance & Adits**	Piling, large dia bored, RCD	CNP 166	2	90%	Enclosure	-10	100	93	**93**
39	**Entrance & Adits**	Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	1	50%	Barrier	-5	106	98	**98**
40	**Entrance & Adits**	Breaker, excavator mounted (hydraulic)	BS D8 13	1	60%	Barrier	-5	110	103	**103**
41	**Entrance & Adits**	Excavator / loader, wheeled / tracked	BS D3 35	1	90%	Barrier	-5	106	101	**103**
		Poker, vibratory, hand held	BS D6 40	1	10%	Barrier	-5	98	83	
		Generator (Silenced)	CNP 103	1	50%	Enclosure	-10	95	82	
		Dump truck	BS D3 60	1	90%	Barrier	-5	104	99	
		Bar bender and cutter (electric)	CNP 021	1	70%		0	90	88	
		Lorry	BS D9 19	1	10%	Barrier	-5	102	87	
42	**Entrance & Adits**	Bar bender and cutter (electric)	CNP 021	1	70%		0	90	88	**91**
		Lorry	BS D9 19	1	10%	Barrier	-5	102	87	
43	**Entrance & Adits**	Generator (Silenced)	CNP 103	1	50%	Enclosure	-10	95	82	**91**
		Bar bender and cutter (electric)	CNP 021	1	70%		0	90	88	
		Lorry	BS D9 19	1	10%	Barrier	-5	102	87	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

Contract SCL 1109
Sung Won Toi and To Kwa Wan Stations and Tunnels
MTW Station Construction + EEP

Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S30 - Diaphragm Wall, Cross Wall & Roof Slab East Side of Ma Tau Wai Road**									
44	**Diaphragm Wall, Cross Wall &**	Trench Cutter	BS D3 106	1	90%	Enclosure	-10	105	95	**100**
	Roof Slab West Side of Ma Tau Wai Road	Crane, mobile / barge mounted (diesel)	BS D7 114	1	90%	Barrier	-5	101	96	
		Lorry	BS D9 19	1	90%	Barrier	-5	102	97	
45	**Diaphragm Wall, Cross Wall &**	Giken Pile Rig	--	1	10%	Barrier	-5	101	86	**86**
	Roof Slab East Side of Ma Tau Wai Road									
46	**Diaphragm Wall, Cross Wall &**	Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	1	10%	Barrier	-5	106	91	**103**
	Roof Slab West Side of Ma Tau Wai Road	Excavator / loader, wheeled / tracked	BS D3 35	1	50%	Barrier	-5	106	98	
		Breaker, excavator mounted (hydraulic)	BS D8 13	1	20%	Barrier	-5	110	98	
		Poker, vibratory, hand held	BS D6 40	1	10%	Barrier	-5	98	83	
		Generator (Silenced)	CNP 103	1	60%	Enclosure	-10	95	83	
		Dump truck	BS D3 60	1	50%	Barrier	-5	104	96	
		Concrete lorry mixer	BS D6 23	1	20%	Barrier	-5	100	88	
		Dump truck	BS D3 60	1	10%	Barrier	-5	104	89	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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Sung Won Toi and To Kwa Wan Stations and Tunnels
MTW Station Construction + EEP

Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S32 - Diaphragm Wall, Cross Wall & Roof Slab East Side of Ma Tau Wai Road**									
47	**Diaphragm Wall, Cross Wall &**	Trench Cutter	BS D3 106	1	90%	Enclosure	-10	105	95	**100**
	Roof Slab West Side of Ma Tau Wai Road	Crane, mobile / barge mounted (diesel)	BS D7 114	1	90%	Barrier	-5	101	96	
		Lorry	BS D9 19	1	90%	Barrier	-5	102	97	
48	**Diaphragm Wall, Cross Wall &**	Giken Pile Rig	--	1	10%	Barrier	-5	101	86	**86**
	Roof Slab East Side of Ma Tau Wai Road									
49	**Diaphragm Wall, Cross Wall &**	Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	1	10%	Barrier	-5	106	91	**103**
	Roof Slab West Side of Ma Tau Wai Road	Excavator / loader, wheeled / tracked	BS D3 35	1	50%	Barrier	-5	106	98	
		Breaker, excavator mounted (hydraulic)	BS D8 13	1	20%	Barrier	-5	110	98	
		Poker, vibratory, hand held	BS D6 40	1	10%	Barrier	-5	98	83	
		Generator (Silenced)	CNP 103	1	60%	Enclosure	-10	95	83	
		Dump truck	BS D3 60	1	50%	Barrier	-5	104	96	
		Concrete lorry mixer	BS D6 23	1	20%	Barrier	-5	100	88	
		Dump truck	BS D3 60	1	10%	Barrier	-5	104	89	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
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[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S34 - Diaphragm Wall, Cross Wall & Roof Slab East Side of Ma Tau Wai Road**									
50	**Diaphragm Wall, Cross Wall &**	Trench Cutter	BS D3 106	1	90%	Enclosure	-10	105	95	**100**
	Roof Slab West Side of Ma Tau Wai Road	Crane, mobile / barge mounted (diesel)	BS D7 114	1	90%	Barrier	-5	101	96	
		Lorry	BS D9 19	1	90%	Barrier	-5	102	97	
51	**Diaphragm Wall, Cross Wall &**	Giken Pile Rig	--	1	10%	Barrier	-5	101	86	**86**
	Roof Slab East Side of Ma Tau Wai Road									
52	**Diaphragm Wall, Cross Wall &**	Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	1	10%	Barrier	-5	106	91	**103**
	Roof Slab West Side of Ma Tau Wai Road	Excavator / loader, wheeled / tracked	BS D3 35	1	50%	Barrier	-5	106	98	
		Breaker, excavator mounted (hydraulic)	BS D8 13	1	20%	Barrier	-5	110	98	
		Poker, vibratory, hand held	BS D6 40	1	10%	Barrier	-5	98	83	
		Generator (Silenced)	CNP 103	1	60%	Enclosure	-10	95	83	
		Dump truck	BS D3 60	1	50%	Barrier	-5	104	96	
		Concrete lorry mixer	BS D6 23	1	20%	Barrier	-5	100	88	
		Dump truck	BS D3 60	1	10%	Barrier	-5	104	89	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
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[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S36 - Diaphragm Wall, Cross Wall & Roof Slab East Side of Ma Tau Wai Road**									
53	**Diaphragm Wall, Cross Wall &**	Trench Cutter	BS D3 106	1	90%	Enclosure	-10	105	95	**100**
	Roof Slab West Side of Ma Tau Wai Road	Crane, mobile / barge mounted (diesel)	BS D7 114	1	90%	Barrier	-5	101	96	
		Lorry	BS D9 19	1	90%	Barrier	-5	102	97	
54	**Diaphragm Wall, Cross Wall &**	Giken Pile Rig	--	1	10%	Barrier	-5	101	86	**86**
	Roof Slab East Side of Ma Tau Wai Road									
55	**Diaphragm Wall, Cross Wall &**	Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	1	10%	Barrier	-5	106	91	**103**
	Roof Slab West Side of Ma Tau Wai Road	Excavator / loader, wheeled / tracked	BS D3 35	1	50%	Barrier	-5	106	98	
		Breaker, excavator mounted (hydraulic)	BS D8 13	1	20%	Barrier	-5	110	98	
		Poker, vibratory, hand held	BS D6 40	1	10%	Barrier	-5	98	83	
		Generator (Silenced)	CNP 103	1	60%	Enclosure	-10	95	83	
		Dump truck	BS D3 60	1	50%	Barrier	-5	104	96	
		Concrete lorry mixer	BS D6 23	1	20%	Barrier	-5	100	88	
		Dump truck	BS D3 60	1	10%	Barrier	-5	104	89	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S38 - Diaphragm Wall, Cross Wall & Roof Slab East Side of Ma Tau Wai Road**									
56	**Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road**	Trench Cutter	BS D3 106	1	90%	Enclosure	-10	105	95	**100**
		Crane, mobile / barge mounted (diesel)	BS D7 114	1	90%	Barrier	-5	101	96	
		Lorry	BS D9 19	1	90%	Barrier	-5	102	97	
57	**Diaphragm Wall, Cross Wall & Roof Slab East Side of Ma Tau Wai Road**	Giken Pile Rig	--	1	10%	Barrier	-5	101	86	**86**
58	**Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road**	Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	1	10%	Barrier	-5	106	91	**103**
		Excavator / loader, wheeled / tracked	BS D3 35	1	50%	Barrier	-5	106	98	
		Breaker, excavator mounted (hydraulic)	BS D8 13	1	20%	Barrier	-5	110	98	
		Poker, vibratory, hand held	BS D6 40	1	10%	Barrier	-5	98	83	
		Generator (Silenced)	CNP 103	1	60%	Enclosure	-10	95	83	
		Dump truck	BS D3 60	1	50%	Barrier	-5	104	96	
		Concrete lorry mixer	BS D6 23	1	20%	Barrier	-5	100	88	
		Dump truck	BS D3 60	1	10%	Barrier	-5	104	89	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S40 - Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road**									
59	**Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road**	Trench Cutter	BS D3 106	2	90%	Enclosure	-10	105	98	**103**
		Crane, mobile / barge mounted (diesel)	BS D7 114	2	90%	Barrier	-5	101	99	
		Lorry	BS D9 19	2	90%	Barrier	-5	102	100	
60	**Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road**	Giken Pile Rig	--	1	10%	Barrier	-5	101	86	**103**
		Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	1	10%	Barrier	-5	106	91	
		Excavator / loader, wheeled / tracked	BS D3 35	1	50%	Barrier	-5	106	98	
		Breaker, excavator mounted (hydraulic)	BS D8 13	1	20%	Barrier	-5	110	98	
		Poker, vibratory, hand held	BS D6 40	1	10%	Barrier	-5	98	83	
		Generator (Silenced)	CNP 103	1	60%	Enclosure	-10	95	83	
		Dump truck	BS D3 60	1	50%	Barrier	-5	104	96	
		Concrete lorry mixer	BS D6 23	1	20%	Barrier	-5	100	88	
		Dump truck	BS D3 60	1	10%	Barrier	-5	104	89	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

Contract SCL 1109
Sung Won Toi and To Kwa Wan Stations and Tunnels
MTW Station Construction + EEP

Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S42 - Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road**									
61	**Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road**	Trench Cutter	BS D3 106	2	90%	Enclosure	-10	105	98	**101**
		Crane, mobile / barge mounted (diesel)	BS D7 114	1	90%	Barrier	-5	101	96	
		Lorry	BS D9 19	1	90%	Barrier	-5	102	97	
62	**Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road**	Giken Pile Rig	--	2	10%	Barrier	-5	101	89	**106**
		Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	2	10%	Barrier	-5	106	94	
		Excavator / loader, wheeled / tracked	BS D3 35	2	50%	Barrier	-5	106	101	
		Breaker, excavator mounted (hydraulic)	BS D8 13	2	20%	Barrier	-5	110	101	
		Poker, vibratory, hand held	BS D6 40	2	10%	Barrier	-5	98	86	
		Generator (Silenced)	CNP 103	2	60%	Enclosure	-10	95	86	
		Dump truck	BS D3 60	2	50%	Barrier	-5	104	99	
		Concrete lorry mixer	BS D6 23	2	20%	Barrier	-5	100	91	
		Dump truck	BS D3 60	2	10%	Barrier	-5	104	92	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

Contract SCL 1109
Sung Won Toi and To Kwa Wan Stations and Tunnels
MTW Station Construction + EEP

Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S50 - Top Down Construction**									
63	**Top Down Construction**	Crane, mobile / barge mounted (diesel)	BS D7 114	1	90%	Barrier	-5	101	96	**102**
		Excavator / loader, wheeled / tracked	BS D3 35	1	90%	Barrier	-5	106	101	
64	**Top Down Construction**	Dump truck	BS D3 60	1	90%	Barrier	-5	104	99	**99**
		Concrete lorry mixer	BS D6 23	1	10%	Barrier	-5	100	85	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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MTW Station Construction + EEP

Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S52 - Top Down Construction**									
65	**Top Down Construction**	Crane, mobile / barge mounted (diesel)	BS D7 114	1	90%	Barrier	-5	101	96	**102**
		Excavator / loader, wheeled / tracked	BS D3 35	1	90%	Barrier	-5	106	101	
66	**Top Down Construction**	Dump truck	BS D3 60	1	90%	Barrier	-5	104	99	**99**
		Concrete lorry mixer	BS D6 23	1	10%	Barrier	-5	100	85	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S54 - Top Down Construction**									
67	**Top Down Construction**	Crane, mobile / barge mounted (diesel)	BS D7 114	1	90%	Barrier	-5	101	96	**102**
		Excavator / loader, wheeled / tracked	BS D3 35	1	90%	Barrier	-5	106	101	
68	**Top Down Construction**	Dump truck	BS D3 60	1	90%	Barrier	-5	104	99	**99**
		Concrete lorry mixer	BS D6 23	1	10%	Barrier	-5	100	85	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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Sung Won Toi and To Kwa Wan Stations and Tunnels
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Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S56 - Top Down Construction**									
69	**Top Down Construction**	Crane, mobile / barge mounted (diesel)	BS D7 114	1	90%	Barrier	-5	101	96	**102**
		Excavator / loader, wheeled / tracked	BS D3 35	1	90%	Barrier	-5	106	101	
70	**Top Down Construction**	Dump truck	BS D3 60	1	90%	Barrier	-5	104	99	**99**
		Concrete lorry mixer	BS D6 23	1	10%	Barrier	-5	100	85	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S58 - Top Down Construction**									
71	**Top Down Construction**	Crane, mobile / barge mounted (diesel)	BS D7 114	1	90%	Barrier	-5	101	96	**102**
		Excavator / loader, wheeled / tracked	BS D3 35	1	90%	Barrier	-5	106	101	
72	**Top Down Construction**	Dump truck	BS D3 60	1	90%	Barrier	-5	104	99	**99**
		Concrete lorry mixer	BS D6 23	1	10%	Barrier	-5	100	85	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
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[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite S60 - Top Down Construction**									
73	**Top Down Construction**	Crane, mobile / barge mounted (diesel)	BS D7 114	1	90%	Barrier	-5	101	96	**102**
		Excavator / loader, wheeled / tracked	BS D3 35	1	90%	Barrier	-5	106	101	
74	**Top Down Construction**	Dump truck	BS D3 60	1	90%	Barrier	-5	104	99	**99**
		Concrete lorry mixer	BS D6 23	1	10%	Barrier	-5	100	85	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

Contract SCL 1109
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MTW Station Construction + EEP

Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite TKW Garden**									
75	**Bentonite Plant**	Excavator, mini-robot mounted	CNP 082	1	100%	Barrier	-5	94	89	**102**
		Generator, portable	CNP 107	1	100%	Enclosure	-5	100	95	
		Air compressor, air flow > 30m3/min	BS D7 44	4	100%	Enclosure	-10	103	99	
		Piling, D-wall, bentonite filtering plant	CNP 162	1	100%	Barrier	-10	105	95	

Notes:

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(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

Contract SCL 1109
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MTW Station Construction + EEP

Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite SSS**									
76	**SSS**	Poker, vibratory, hand held	BS D6 40	1	10%	Barrier	-5	98	83	**102**
	Storage area	Generator (Silenced)	CNP 103	1	80%	Enclosure	-10	95	84	
		Dump truck	BS D3 60	1	25%	Barrier	-5	104	93	
		Concrete pump, stationary / lorry mounted	BS D6 34	1	10%	Barrier	-5	107	92	
		Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	2	25%	Barrier	-5	106	98	
		Crane, mobile / barge mounted (diesel)	BS D7 114	1	20%	Barrier	-5	101	89	
		Excavator / loader, wheeled / tracked	BS D3 35	1	25%	Barrier	-5	106	95	
77	**SSS**	Generator (Silenced)	CNP 103	1	20%	Enclosure	-10	95	78	**95**
	Storage area	Crane, mobile / barge mounted (diesel)	BS D7 114	2	25%	Barrier	-5	101	93	
		Lorry	BS D9 19	1	25%	Barrier	-5	102	91	

Notes:

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(http://www.epd.gov.hk/epd/english/application_for_licences/

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

Contract SCL 1109
Sung Won Toi and To Kwa Wan Stations and Tunnels
MTW Station Construction + EEP

Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite EKW Pier 15**									
80	**EKW Pier 15**	Giken Pile Rig	--	1	90%	Barrier	-5	101	96	**96**
81	**EKW Pier 15**	H-Pile rig	BS D4 89a	1	90%	Enclosure	-10	110	100	**104**
		Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	1	20%	Barrier	-5	106	94	
		Breaker, excavator mounted (hydraulic)	BS D8 13	1	30%	Barrier	-5	110	100	
		Excavator / loader, wheeled / tracked	BS D3 35	1	30%	Barrier	-5	106	96	
		Poker, vibratory, hand held	BS D6 40	1	10%	Barrier	-5	98	83	
		Generator (Silenced)	CNP 103	1	30%	Enclosure	-10	95	80	
		Dump truck	BS D3 60	1	30%	Barrier	-5	104	94	
82	**EKW Pier 15**	Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	1	20%	Barrier	-5	106	94	**103**
		Breaker, excavator mounted (hydraulic)	BS D8 13	1	30%	Barrier	-5	110	100	
		Excavator / loader, wheeled / tracked	BS D3 35	1	30%	Barrier	-5	106	96	
		Poker, vibratory, hand held	BS D6 40	1	10%	Barrier	-5	98	83	
		Generator (Silenced)	CNP 103	1	30%	Enclosure	-10	95	80	
		Dump truck	BS D3 60	1	30%	Barrier	-5	104	94	
83	**EKW Pier 15**	Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	1	20%	Barrier	-5	106	94	**100**
		Excavator / loader, wheeled / tracked	BS D3 35	1	30%	Barrier	-5	106	96	
		Poker, vibratory, hand held	BS D6 40	1	10%	Barrier	-5	98	83	
		Generator (Silenced)	CNP 103	1	30%	Enclosure	-10	95	80	
		Piling, D-wall, hydraulic extractor	CNP 163	2	90%	Barrier	-5	90	88	
		Dump truck	BS D3 60	1	30%	Barrier	-5	104	94	

Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
84	**EKW Pier 15**	Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	1	20%	Barrier	-5	106	94	**100**
		Excavator / loader, wheeled / tracked	BS D3 35	1	30%	Barrier	-5	106	96	
		Generator (Silenced)	CNP 103	1	30%	Enclosure	-10	95	80	
		Piling, D-wall, hydraulic extractor	CNP 163	2	90%	Barrier	-5	90	88	
		Dump truck	BS D3 60	1	30%	Barrier	-5	104	94	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
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[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

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MTW Station Construction + EEP

Annex B2 : Construction Plant Inventory (With Mitigation)

No.	Activities	Plant	TM Ref. / Other Ref. [1]	No. of PME	On-time %	Type of Noise Control[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)[2]
	Daytime Period									
I)	**Worksite EEP**									
85	**Shaft**	Crane, mobile / barge mounted (diesel)	BS D7 114	1	90%	Barrier	-5	101	96	**108**
		Excavator / loader, wheeled / tracked	BS D3 35	1	90%	Barrier	-5	106	101	
		Piling, earth auger, auger	BS D4 44	1	50%	Acoustic Mat	-10	109	96	
		Breaker, hand held, masss >= 20kg and =< 35 kg	BS D8 12	3	50%	Barrier	-5	106	103	
		Grout mixer	CNP 105	1	30%	Enclosure	-5	90	80	
		Grout pump	CNP 106	1	30%	Enclosure	-5	105	95	
		Generator, portable	CNP 107	1	60%	Enclosure	-5	100	93	
		Air compressor, air flow > 30m3/min	BS D7 44	2	60%	Enclosure	-10	103	94	
		Dump truck	BS D3 60	4	50%	Barrier	-5	104	102	
		Dump truck	BS D3 60	1	10%	Barrier	-5	104	89	

Notes:

[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
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[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012)

Enclouse for movable plant	-5dB(A)
Enclouse for relatively static plant	-10dB(A)
Barrier for movable plant	-5 dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

Annex B-3 : Summary of Predicted Noise Levels from Construction

MTW Station Construction + EEP

Predicted Construction Noise Level (dB(A)) — 2012 and 2013

	NSR Location	EIAO-TM Noise Criteria, dB(A)	2012												2013											
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
MTW-12-3	Lucky Mansion	75												65	65	67	67	68	72	71	72	69	69	69	69	69
MTW-12-4	352-354 Ma Tau Wai Rd (East Façade)	75												61	61	67	67	69	73	72	73	72	72	72	72	72
MTW-12-4-1	352-354 Ma Tau Wai Rd (North Facade)	75												61	61	65	66	68	71	71	72	70	70	70	70	70
MTW-12-10	Lucky Building (South Facade)	75											48	67	67	67	70	70	71	72	71	66	65	64	65	66
MTW-12-10-1	Lucky Building (East Facade)	75											47	68	68	68	71	71	73	73	72	67	66	65	67	68
MTW-12-11	Jing Ming Building	75												63	63	66	66	67	71	71	71	69	69	69	69	69
MTW-16-1	SKH Good Shepherd Primary School	70 (65)												69	69	70	70	**72**	**78**	**77**	**78**	**75**	**75**	**76**	**76**	**76**
MTW-18-2	No. 2 Kowloon City Road	75											49	66	66	66	70	70	**78**	**81**	**81**	**78**	72	68	65	67
HOM-2-1-A	Faerie Court (East Facade)	75											71	71	71	71	65	65	65	66	66	65	65	65	65	66

Predicted Construction Noise Level (dB(A)) — 2014 and 2015

	2014												2015											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
MTW-12-3	58	74	74	74	65	64	67	**76**	**79**	**79**	**76**	**80**	**80**	75	**78**	**77**	**77**	**77**	74	74	74	74	74	74
MTW-12-4	61	68	68	68	72	71	71	**77**	**76**	**78**	**78**	**80**	**80**	**76**	**80**	**79**	**79**	**78**	75	75	75	75	75	75
MTW-12-4-1	60	68	68	68	69	68	68	74	75	**76**	75	**78**	**77**	**76**	**82**	**82**	**82**	**80**	72	72	73	73	73	73
MTW-12-10	66	66	66	66	66	66	71	69	69	72	69	74	74	75	**76**	**77**	75	72	72	74	**82**	**84**	**81**	**81**
MTW-12-10-1	68	69	68	67	67	67	71	70	70	75	74	**77**	**77**	**77**	**77**	**80**	**79**	74	74	74	**77**	**79**	**77**	**77**
MTW-12-11	58	71	71	71	66	64	66	75	**77**	**77**	**76**	**80**	**80**	**77**	**81**	**81**	**81**	**80**	75	75	75	75	75	75
MTW-16-1	63	70	70	70	66	65	67	**73**	**75**	**75**	**73**	**78**	**78**	**76**	**77**	**77**	**77**	**76**	**76**	**76**	**76**	**76**	**76**	**76**
MTW-18-2	67	67	66	67	67	67	68	66	66	67	66	70	69	72	72	70	70	69	69	69	68	69	68	68
HOM-2-1-A	66	66	65	65	65	65	65	65	65	65	65	65	65	66	66	65	65	65	65	65	65	65	65	65

Predicted Construction Noise Level (dB(A)) — 2016 to 2018

	2016												2017												2018												Maximum Predicted CNL, dB(A)
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	
MTW-12-3	74	69	69	55	55	55	55																														**80**
MTW-12-4	75	70	70	57	57	57	57																														**80**
MTW-12-4-1	73	68	68	55	55	55	55																														**82**
MTW-12-10	**81**	67	67	48	48	48	48	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41								**84**
MTW-12-10-1	**77**	69	69	49	49	49	49	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41								**80**
MTW-12-11	75	70	70	55	55	55	55																														**81**
MTW-16-1	**76**	**71**	**71**	62	62	62	62																														**78**
MTW-18-2	68	62	62	46	46	46	46	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43								**81**
HOM-2-1-A	65	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64								**71**

Notes:

(65)	noise criterion during examination period (typical examination period in May, June, November and December) of educational institution.
79	Predicted Noise Level exceeded the corresponding EIAO-TM noise criteria.
69	Predicted Noise Level exceeded the noise criteriion during examination period.

Annex B4-a

Construction Noise Assessment

NSR: MTW-12-3 Lucky Mansion

Predicted Construction Noise Level (dB(A))

No.	Activity Description	SWL dB(A)[2]	Distance m	Corr. for distance dB(A)[1][2]	Corr. for façade dB(A)	2012												2013											
						1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
	Daytime Period																												
	MTW Station Construction + EEP																												
	MTW Stage 1 S1																												
1	Works in S1	100	255	-56	3																						47		
2	Works in S1	97	255	-56	3																								
	MTW Stage 1 S2																												
3	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	230	-55	3																								
4	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	230	-55	3																								
	MTW Stage 1 S4																												
5	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	195	-54	3																								
6	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	195	-54	3																								
	MTW Stage 1 S6																												
7	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	160	-52	3																								
8	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	160	-52	3																								
	MTW Stage 1 S8																												
9	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	130	-50	3																								
10	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	130	-50	3																								
	MTW Stage 1 S10																												
11	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	100	-48	3																								
12	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	100	-48	3																								
	MTW Stage 1 S12																												
13	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	70	-45	3																								
14	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	70	-45	3																								
	MTW Stage 1 S14																												
15	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	40	-40	3																								
16	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	40	-40	3																								
	MTW Stage 1 S16																												
17	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	14	-31	3																								
18	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	106	14	-31	3																								
	MTW Stage 1 S18																												
19	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	17	-33	3																								
20	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	106	17	-33	3																								
	MTW Stage 1 S20																												
21	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	45	-41	3																								
22	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	45	-41	3																								
	MTW Stage 1 S21																												
23	Works in S21	100	70	-45	3																						58		
24	Works in S21	97	70	-45	3																								
	MTW Stage 1 & 2 S22																												
25	Entrance and Adits	93	195	-54	3																								
26	Entrance and Adits	98	195	-54	3																								
27	Entrance and Adits	103	195	-54	3																								
28	Entrance and Adits	103	195	-54	3																								
	MTW Stage 1 & 2 S24																												
29	Entrance and Adits	96	17	-33	3																								
30	Entrance and Adits	98	17	-33	3																								
31	Entrance and Adits	103	17	-33	3																								
32	Entrance and Adits	103	17	-33	3																								
	MTW Stage 2 &3 S26																												
33	Entrance and Adits	93	70	-45	3													51	51	51									
34	Entrance and Adits	98	70	-45	3														56	56	56	56	56	56	56	56			
35	Entrance and Adits	103	70	-45	3														61	61	61								
36	Entrance and Adits	103	70	-45	3																61	61	61	61	61	61			
37	Entrance and Adits	91	70	-45	3																						49	49	49
	MTW Stage 2 & 3 S28																												
38	Entrance and Adits	93	45	-41	3																55	55	55						
39	Entrance and Adits	98	45	-41	3																	60	60	60	60	60	60	60	60
40	Entrance and Adits	103	45	-41	3																	65	65	65					
41	Entrance and Adits	103	45	-41	3																			65	65	65	65	65	65
42	Entrance and Adits	91	45	-41	3																53	53	53	53	53	53	53	53	53
43	Entrance and Adits	91	45	-41	3																								
	MTW Stage 2 S30																												
44	Roof Slab East Side of Ma Tau Wai Road	100	35	-39	3												65	65	65	65	65	65							
45	Roof Slab East Side of Ma Tau Wai Road	86	35	-39	3																	50	50						
46	Roof Slab East Side of Ma Tau Wai Road	103	35	-39	3																	67	67	67					
	MTW Stage 2 S32																												
47	Roof Slab East Side of Ma Tau Wai Road	100	50	-42	3																	61	61	61	61	61			
48	Roof Slab East Side of Ma Tau Wai Road	86	50	-42	3																					47	47		
49	Roof Slab East Side of Ma Tau Wai Road	103	50	-42	3																						64	64	64
	MTW Stage 2 S34																												
50	Roof Slab East Side of Ma Tau Wai Road	100	115	-49	3																				54	54	54	54	
51	Roof Slab East Side of Ma Tau Wai Road	86	115	-49	3																						40	40	
52	Roof Slab East Side of Ma Tau Wai Road	103	115	-49	3																							57	57
	MTW Stage 2 S36																												
53	Roof Slab East Side of Ma Tau Wai Road	100	145	-51	3																								52
54	Roof Slab East Side of Ma Tau Wai Road	86	145	-51	3																38	38							
55	Roof Slab East Side of Ma Tau Wai Road	103	145	-51	3																	55	55						
	MTW Stage 2 S38																												
56	Roof Slab East Side of Ma Tau Wai Road	100	180	-53	3												50	50	50										
57	Roof Slab East Side of Ma Tau Wai Road	86	180	-53	3															36	36	36							
58	Roof Slab East Side of Ma Tau Wai Road	103	180	-53	3															53	53	53	53	53					
	MTW Stage 2 & 3 S40																												
59	Roof Slab West Side of Ma Tau Wai Road	103	265	-56	3																	50	50	50					
60	Roof Slab West Side of Ma Tau Wai Road	103	265	-56	3																		50	50	50				
	MTW Stage 1 & 2 S42																												
61	Roof Slab West Side of Ma Tau Wai Road	101	290	-57	3															47	47	47	47						
62	Roof Slab West Side of Ma Tau Wai Road	106	290	-57	3																		52	52	52	52			
	MTW Stage 3 S50																												
63	Top Down Construction	102	35	-39	3																								
64	Top Down Construction	99	35	-39	3																								
	MTW Stage 3 S52																												
65	Top Down Construction	102	22	-35	3																								
66	Top Down Construction	99	22	-35	3																								
	MTW Stage 3 S54																												
67	Top Down Construction	102	50	-42	3																								
68	Top Down Construction	99	50	-42	3																								
	MTW Stage 3 S56																												
69	Top Down Construction	102	100	-48	3																								

No.	2014												2015											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
1																								
2														44										
3				48	48	48	48																	
4														51	51									
5							50	50	50	50														
6															52	52								
7										51	51	51	51	51										
8																54	54							
9	53	53	53	53	53	53	53																	
10															56	56	56							
11										55	55	55	55											
12														58	58									
13		59	59	59	59																			
14														61	61									
15					63	63	63	63																
16										66	66													
17								75	75	75	75													
18												78	78											
19		74	74	74																				
20									77	77														
21							62	62	62															
22											65	65												
23																								
24														55										
25																				42	42			
26																					47	47	47	47
27																					52	52		
28																						52	52	52
29														66	66									
30															68	68	68							
31															73									
32																73	73	73						
33																								
34																								
35																								
36																								
37	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49
38																								
39																								
40																								
41																								
42																								
43	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
44																								
45																								
46																								
47																								
48																								
49																								
50																								
51																								
52																								
53	52	52	52																					
54																								
55																								
56																								
57																								
58																								
59																								
60																								
61																								
62																								
63												66	66	66	66	66	66	66	66	66	66	66	66	66
64												63	63	63	63	63	63	63	63	63	63	63	63	63
65												70	70	70	70	70	70	70	70	70	70	70	70	70
66												67	67	67	67	67	67	67	67	67	67	67	67	67
67												63	63	63	63	63	63	63	63	63	63	63	63	63
68												60	60	60	60	60	60	60	60	60	60	60	60	60
69												57	57	57	57	57	57	57	57	57	57	57	57	57

No.	2016												2017												2018												Max. CNL dB(A)
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	
26	47																																				
28	52																																				
37	49	49	49	49	49	49	49																														
43	53	53	53	53	53	53	53																														
63	66																																				
64	63	63	63																																		
65	70																																				
66	67	67	67																																		
67	63																																				
68	60	60	60																																		
69	57																																				

Annex B4-a

Construction Noise Assessment

NSR: MTW-12-3 Lucky Mansion

No.	Activity Description	SWL dB(A)[2]	Distance m	Corr. for distance dB(A)[1][2]	Corr. for façade dB(A)	Max. CNL dB(A)
70	Top Down Construction	99	100	-48	3	
	MTW Stage 3 S58					
71	Top Down Construction	102	150	-52	3	
72	Top Down Construction	99	150	-52	3	
	MTW Stage 3 S60					
73	Top Down Construction	102	205	-54	3	
74	Top Down Construction	99	205	-54	3	
	MTW TKW Garden					
75	Bentonite Plant	102	n/a	--	3	
	MTW SSS					
76	Storage Area	102	n/a	--	3	
77	Storage Area	95	n/a	--	3	
	EKW Pier 15					
80	Pier Work	96	n/a	--	3	
81	Pier Work	104	n/a	--	3	
82	Pier Work	103	n/a	--	3	
83	Pier Work	100	n/a	--	3	
84	Pier Work	100	n/a	--	3	
	Worksite EEP					
85	Shaft	108	n/a	--	3	
	Predicted Noise Level during Daytime Period, dB(A)					80

Predicted Construction Noise Level (dB(A))

No.	Activity Description	2012												2013											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
70	Top Down Construction																								
	MTW Stage 3 S58																								
71	Top Down Construction																								
72	Top Down Construction																								
	MTW Stage 3 S60																								
73	Top Down Construction																								
74	Top Down Construction																								
	MTW TKW Garden																								
75	Bentonite Plant																								
	MTW SSS																								
76	Storage Area																								
77	Storage Area																								
	EKW Pier 15																								
80	Pier Work																								
81	Pier Work																								
82	Pier Work																								
83	Pier Work																								
84	Pier Work																								
	Worksite EEP																								
85	Shaft																								
	Predicted Noise Level during Daytime Period, dB(A)												65	65	67	67	68	72	71	72	69	69	69	69	69

No.	Activity Description	2014												2015											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
70	Top Down Construction												54	54	54	54	54	54	54	54	54	54	54	54	54
	MTW Stage 3 S58																								
71	Top Down Construction												53	53	53	53	53	53	53	53	53	53	53	53	53
72	Top Down Construction												50	50	50	50	50	50	50	50	50	50	50	50	50
	MTW Stage 3 S60																								
73	Top Down Construction												51	51	51	51	51	51	51	51	51	51	51	51	51
74	Top Down Construction												48	48	48	48	48	48	48	48	48	48	48	48	48
	MTW TKW Garden																								
75	Bentonite Plant																								
	MTW SSS																								
76	Storage Area																								
77	Storage Area																								
	EKW Pier 15																								
80	Pier Work																								
81	Pier Work																								
82	Pier Work																								
83	Pier Work																								
84	Pier Work																								
	Worksite EEP																								
85	Shaft																								
	Predicted Noise Level during Daytime Period, dB(A)	58	74	74	74	65	64	67	76	79	79	76	80	80	75	78	77	77	77	74	74	74	74	74	74

No.	Activity Description	2016												2017												2018											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
70	Top Down Construction	54	54	54																																	
	MTW Stage 3 S58																																				
71	Top Down Construction	53																																			
72	Top Down Construction	50	50	50																																	
	MTW Stage 3 S60																																				
73	Top Down Construction	51																																			
74	Top Down Construction	48	48	48																																	
	MTW TKW Garden																																				
75	Bentonite Plant																																				
	MTW SSS																																				
76	Storage Area																																				
77	Storage Area																																				
	EKW Pier 15																																				
80	Pier Work																																				
81	Pier Work																																				
82	Pier Work																																				
83	Pier Work																																				
84	Pier Work																																				
	Worksite EEP																																				
85	Shaft																																				
	Predicted Noise Level during Daytime Period, dB(A)	74	69	69	55	55	55	55																													

Note:

[1] Distance Correction for PMEs = $10*\log(2*PI*r^2)$

[2] The figures are rounded-up to a whole number.

[3] Distance more than 300m from the works area were not assessed

Annex B4-b

Construction Noise Assessment

NSR: MTW-12-4 352-354 Ma Tau Wai Rd (East Façade)

No.	Activity Description	SWL dB(A)[2]	Distance m	Corr. for distance dB(A)[1][2]	Corr. for façade dB(A)	Max. CNL dB(A)
	Daytime Period					
	MTW Station Construction + EEP					
	MTW Stage 1 S1					
1	Works in S1	100	225	-55	3	
2	Works in S1	97	225	-55	3	
	MTW Stage 1 S2					
3	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	200	-54	3	
4	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	200	-54	3	
	MTW Stage 1 S4					
5	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	105	-48	3	
6	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	105	-48	3	
	MTW Stage 1 S6					
7	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	135	-51	3	
8	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	135	-51	3	
	MTW Stage 1 S8					
9	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	105	-48	3	
10	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	105	-48	3	
	MTW Stage 1 S10					
11	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	75	-45	3	
12	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	75	-45	3	
	MTW Stage 1 S12					
13	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	45	-41	3	
14	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	45	-41	3	
	MTW Stage 1 S14					
15	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	17	-33	3	
16	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	17	-33	3	
	MTW Stage 1 S16					
17	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	14	-31	3	
18	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	106	14	-31	3	
	MTW Stage 1 S18					
19	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	45	-41	3	
20	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	106	45	-41	3	
	MTW Stage 1 S20					
21	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	70	-45	3	
22	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	70	-45	3	
	MTW Stage 1 S21					
23	Works in S21	100	95	-48	3	
24	Works in S21	97	95	-48	3	
	MTW Stage 1 & 2 S22					
25	Entrance and Adits	93	165	-52	3	
26	Entrance and Adits	98	165	-52	3	
27	Entrance and Adits	103	165	-52	3	
28	Entrance and Adits	103	165	-52	3	
	MTW Stage 1 & 2 S24					
29	Entrance and Adits	96	13	-30	3	
30	Entrance and Adits	98	13	-30	3	
31	Entrance and Adits	103	13	-30	3	
32	Entrance and Adits	103	13	-30	3	
	MTW Stage 2 &3 S26					
33	Entrance and Adits	93	50	-42	3	
34	Entrance and Adits	98	50	-42	3	
35	Entrance and Adits	103	50	-42	3	
36	Entrance and Adits	103	50	-42	3	
37	Entrance and Adits	91	50	-42	3	
	MTW Stage 2 & 3 S28					
38	Entrance and Adits	93	35	-39	3	
39	Entrance and Adits	98	35	-39	3	
40	Entrance and Adits	103	35	-39	3	
41	Entrance and Adits	103	35	-39	3	
42	Entrance and Adits	91	35	-39	3	
43	Entrance and Adits	91	35	-39	3	
	MTW Stage 2 S30					
44	Roof Slab East Side of Ma Tau Wai Road	100	60	-44	3	
45	Roof Slab East Side of Ma Tau Wai Road	86	60	-44	3	
46	Roof Slab East Side of Ma Tau Wai Road	103	60	-44	3	
	MTW Stage 2 S32					
47	Roof Slab East Side of Ma Tau Wai Road	100	30	-37	3	
48	Roof Slab East Side of Ma Tau Wai Road	86	30	-37	3	
49	Roof Slab East Side of Ma Tau Wai Road	103	30	-37	3	
	MTW Stage 2 S34					
50	Roof Slab East Side of Ma Tau Wai Road	100	85	-47	3	
51	Roof Slab East Side of Ma Tau Wai Road	86	85	-47	3	
52	Roof Slab East Side of Ma Tau Wai Road	103	85	-47	3	
	MTW Stage 2 S36					
53	Roof Slab East Side of Ma Tau Wai Road	100	115	-49	3	
54	Roof Slab East Side of Ma Tau Wai Road	86	115	-49	3	
55	Roof Slab East Side of Ma Tau Wai Road	103	115	-49	3	
	MTW Stage 2 S38					
56	Roof Slab East Side of Ma Tau Wai Road	100	150	-52	3	
57	Roof Slab East Side of Ma Tau Wai Road	86	150	-52	3	
58	Roof Slab East Side of Ma Tau Wai Road	103	150	-52	3	
	MTW Stage 2 & 3 S40					
59	Roof Slab West Side of Ma Tau Wai Road	103	235	-55	3	
60	Roof Slab West Side of Ma Tau Wai Road	103	235	-55	3	
	MTW Stage 1 & 2 S42					
61	Roof Slab West Side of Ma Tau Wai Road	101	260	-56	3	
62	Roof Slab West Side of Ma Tau Wai Road	106	260	-56	3	
	MTW Stage 3 S50					
63	Top Down Construction	102	60	-44	3	
64	Top Down Construction	99	60	-44	3	
	MTW Stage 3 S52					
65	Top Down Construction	102	22	-35	3	
66	Top Down Construction	99	22	-35	3	
	MTW Stage 3 S54					
67	Top Down Construction	102	28	-37	3	
68	Top Down Construction	99	28	-37	3	
	MTW Stage 3 S56					
69	Top Down Construction	102	70	-45	3	

Predicted Construction Noise Level (dB(A))

No.	2012												2013											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
1																						48		
2																								
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29																								
30																								
31																								
32																								
33													54	54	54									
34														59	59	59	59	59	59	59	59			
35														64	64	64								
36																64	64	64	64	64	64			
37																						52	52	52
38																57	57	57						
39																	62	62	62	62	62	62	62	62
40																	67	67	67					
41																			67	67	67	67	67	67
42																55	55	55	55	55	55	55	55	55
43																								
44												60	60	60	60	60	60							
45																	45	45						
46																	62	62	62					
47																	66	66	66	66	66			
48																					52	52		
49																						69	69	69
50																				57	57	57	57	
51																						42	42	
52																							59	59
53																								54
54																40	40							
55																	57	57						
56												52	52	52										
57															37	37	37							
58															54	54	54	54	54					
59																	51	51	51					
60																		51	51	51				
61															48	48	48	48						
62																		53	53	53	53			
63																								
64																								
65																								
66																								
67																								
68																								
69																								

No.	2014												2015											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
1																								
2														45										
3				49	49	49	49																	
4														52	52									
5							55	55	55	55														
6															58	58								
7										53	53	53	53	53										
8																56	56							
9	55	55	55	55	55	55	55																	
10															58	58	58							
11										58	58	58	58											
12														61	61									
13		62	62	62	62																			
14														65	65									
15					71	71	71	71																
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17								75	75	75	75													
18												78	78											
19		65	65	65																				
20									68	68														
21							59	59	59															
22											61	61												
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24														53										
25																				43	43			
26																					49	49	49	49
27																					53	53		
28																						53	53	53
29														68	68									
30															71	71	71							
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32																75	75	75						
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36																								
37	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52
38																								
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42																								
43	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55
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63												61	61	61	61	61	61	61	61	61	61	61	61	61
64												58	58	58	58	58	58	58	58	58	58	58	58	58
65												70	70	70	70	70	70	70	70	70	70	70	70	70
66												67	67	67	67	67	67	67	67	67	67	67	67	67
67												68	68	68	68	68	68	68	68	68	68	68	68	68
68												65	65	65	65	65	65	65	65	65	65	65	65	65
69												60	60	60	60	60	60	60	60	60	60	60	60	60

No.	2016												2017												2018											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
26	49																																			
28	53																																			
37	52	52	52	52	52	52	52																													
43	55	55	55	55	55	55	55																													
63	61																																			
64	58	58	58																																	
65	70																																			
66	67	67	67																																	
67	68																																			
68	65	65	65																																	
69	60																																			

Annex B4-b

Construction Noise Assessment

NSR: MTW-12-4 352-354 Ma Tau Wai Rd (East Façade)

No.	Activity Description	SWL dB(A)[2]	Distance m	Corr. for distance dB(A)[1][2]	Corr. for façade dB(A)
70	Top Down Construction	99	70	-45	3
	MTW Stage 3 S58				
71	Top Down Construction	102	100	-48	3
72	Top Down Construction	99	100	-48	3
	MTW Stage 3 S60				
73	Top Down Construction	102	175	-53	3
74	Top Down Construction	99	175	-53	3
	MTW TKW Garden				
75	Bentonite Plant	102	280	-57	3
	MTW SSS				
76	Storage Area	102	n/a	--	3
77	Storage Area	95	n/a	--	3
	EKW Pier 15				
80	Pier Work	96	295	-57	3
81	Pier Work	104	295	-57	3
82	Pier Work	103	295	-57	3
83	Pier Work	100	295	-57	3
84	Pier Work	100	295	-57	3
	Worksite EEP				
85	Shaft	108	n/a	--	3
	Predicted Noise Level during Daytime Period, dB(A)				

Predicted Construction Noise Level (dB(A))

No.	Activity Description	2012												2013											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
70	Top Down Construction																								
	MTW Stage 3 S58																								
71	Top Down Construction																								
72	Top Down Construction																								
	MTW Stage 3 S60																								
73	Top Down Construction																								
74	Top Down Construction																								
	MTW TKW Garden																								
75	Bentonite Plant												48	48	48	48	48	48	48	48	48	48	48	48	48
	MTW SSS																								
76	Storage Area																								
77	Storage Area																								
	EKW Pier 15																								
80	Pier Work																								
81	Pier Work																								50
82	Pier Work																								
83	Pier Work																								
84	Pier Work																								
	Worksite EEP																								
85	Shaft																								
	Predicted Noise Level during Daytime Period, dB(A)												61	61	67	67	69	73	72	73	72	72	72	72	72

No.	Activity Description	2014												2015											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
70	Top Down Construction												57	57	57	57	57	57	57	57	57	57	57	57	57
	MTW Stage 3 S58																								
71	Top Down Construction												57	57	57	57	57	57	57	57	57	57	57	57	57
72	Top Down Construction												54	54	54	54	54	54	54	54	54	54	54	54	54
	MTW Stage 3 S60																								
73	Top Down Construction												52	52	52	52	52	52	52	52	52	52	52	52	52
74	Top Down Construction												49	49	49	49	49	49	49	49	49	49	49	49	49
	MTW TKW Garden																								
75	Bentonite Plant	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48				
	MTW SSS																								
76	Storage Area																								
77	Storage Area																								
	EKW Pier 15																								
80	Pier Work	41	41																						
81	Pier Work	50	50																						
82	Pier Work			48																					
83	Pier Work				45	45																			
84	Pier Work							45	45	45	45	45	45	45	45	45									
	Worksite EEP																								
85	Shaft																								
	Predicted Noise Level during Daytime Period, dB(A)	61	68	68	68	72	71	71	77	76	78	78	80	80	76	80	79	79	78	75	75	75	75	75	75

No.	Activity Description	2016												2017												2018												Max. CNL
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	dB(A)
70	Top Down Construction	57	57	57																																		
	MTW Stage 3 S58																																					
71	Top Down Construction	57																																				
72	Top Down Construction	54	54	54																																		
	MTW Stage 3 S60																																					
73	Top Down Construction	52																																				
74	Top Down Construction	49	49	49																																		
	MTW TKW Garden																																					
75	Bentonite Plant																																					
	MTW SSS																																					
76	Storage Area																																					
77	Storage Area																																					
	EKW Pier 15																																					
80	Pier Work																																					
81	Pier Work																																					
82	Pier Work																																					
83	Pier Work																																					
84	Pier Work																																					
	Worksite EEP																																					
85	Shaft																																					
	Predicted Noise Level during Daytime Period, dB(A)	75	70	70	57	57	57	57																														80

Note:

[1] Distance Correction for PMEs = $10*\log(2*PI*r^2)$

[2] The figures are rounded-up to a whole number.

[3] Distance more than 300m from the works area were not assessed

Annex B4-c

Construction Noise Assessment

NSR: MTW-12-4-1 352-354 Ma Tau Wai Rd (North Facade)

No.	Activity Description	SWL dB(A)[2]	Distance m	Corr. for distance dB(A)[1][2]	Corr. for façade dB(A)	Max. CNL dB(A)
	Daytime Period					
	MTW Station Construction + EEP					
	MTW Stage 1 S1					
1	Works in S1	100	230	-55	3	
2	Works in S1	97	230	-55	3	
	MTW Stage 1 S2					
3	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	205	-54	3	
4	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	205	-54	3	
	MTW Stage 1 S4					
5	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	170	-53	3	
6	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	170	-53	3	
	MTW Stage 1 S6					
7	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	140	-51	3	
8	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	140	-51	3	
	MTW Stage 1 S8					
9	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	110	-49	3	
10	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	110	-49	3	
	MTW Stage 1 S10					
11	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	80	-46	3	
12	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	80	-46	3	
	MTW Stage 1 S12					
13	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	50	-42	3	
14	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	50	-42	3	
	MTW Stage 1 S14					
15	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	26	-36	3	
16	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	26	-36	3	
	MTW Stage 1 S16					
17	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	19	-34	3	
18	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	106	19	-34	3	
	MTW Stage 1 S18					
19	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	40	-40	3	
20	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	106	40	-40	3	
	MTW Stage 1 S20					
21	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	70	-45	3	
22	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	70	-45	3	
	MTW Stage 1 S21					
23	Works in S21	100	95	-48	3	
24	Works in S21	97	95	-48	3	
	MTW Stage 1 & 2 S22					
25	Entrance and Adits	93	170	-53	3	
26	Entrance and Adits	98	170	-53	3	
27	Entrance and Adits	103	170	-53	3	
28	Entrance and Adits	103	170	-53	3	
	MTW Stage 1 & 2 S24					
29	Entrance and Adits	96	8	-26	3	
30	Entrance and Adits	98	8	-26	3	
31	Entrance and Adits	103	8	-26	3	
32	Entrance and Adits	103	8	-26	3	
	MTW Stage 2 &3 S26					
33	Entrance and Adits	93	60	-44	3	
34	Entrance and Adits	98	60	-44	3	
35	Entrance and Adits	103	60	-44	3	
36	Entrance and Adits	103	60	-44	3	
37	Entrance and Adits	91	60	-44	3	
	MTW Stage 2 & 3 S28					
38	Entrance and Adits	93	45	-41	3	
39	Entrance and Adits	98	45	-41	3	
40	Entrance and Adits	103	45	-41	3	
41	Entrance and Adits	103	45	-41	3	
42	Entrance and Adits	91	45	-41	3	
43	Entrance and Adits	91	45	-41	3	
	MTW Stage 2 S30					
44	Roof Slab East Side of Ma Tau Wai Road	100	60	-44	3	
45	Roof Slab East Side of Ma Tau Wai Road	86	60	-44	3	
46	Roof Slab East Side of Ma Tau Wai Road	103	60	-44	3	
	MTW Stage 2 S32					
47	Roof Slab East Side of Ma Tau Wai Road	100	40	-40	3	
48	Roof Slab East Side of Ma Tau Wai Road	86	40	-40	3	
49	Roof Slab East Side of Ma Tau Wai Road	103	40	-40	3	
	MTW Stage 2 S34					
50	Roof Slab East Side of Ma Tau Wai Road	100	95	-48	3	
51	Roof Slab East Side of Ma Tau Wai Road	86	95	-48	3	
52	Roof Slab East Side of Ma Tau Wai Road	103	95	-48	3	
	MTW Stage 2 S36					
53	Roof Slab East Side of Ma Tau Wai Road	100	120	-50	3	
54	Roof Slab East Side of Ma Tau Wai Road	86	120	-50	3	
55	Roof Slab East Side of Ma Tau Wai Road	103	120	-50	3	
	MTW Stage 2 S38					
56	Roof Slab East Side of Ma Tau Wai Road	100	160	-52	3	
57	Roof Slab East Side of Ma Tau Wai Road	86	160	-52	3	
58	Roof Slab East Side of Ma Tau Wai Road	103	160	-52	3	
	MTW Stage 2 & 3 S40					
59	Roof Slab West Side of Ma Tau Wai Road	103	240	-56	3	
60	Roof Slab West Side of Ma Tau Wai Road	103	240	-56	3	
	MTW Stage 1 & 2 S42					
61	Roof Slab West Side of Ma Tau Wai Road	101	265	-56	3	
62	Roof Slab West Side of Ma Tau Wai Road	106	265	-56	3	
	MTW Stage 3 S50					
63	Top Down Construction	102	60	-44	3	
64	Top Down Construction	99	60	-44	3	
	MTW Stage 3 S52					
65	Top Down Construction	102	28	-37	3	
66	Top Down Construction	99	28	-37	3	
	MTW Stage 3 S54					
67	Top Down Construction	102	40	-40	3	
68	Top Down Construction	99	40	-40	3	
	MTW Stage 3 S56					
69	Top Down Construction	102	80	-46	3	

Predicted Construction Noise Level (dB(A))

No.	2012											
	1	2	3	4	5	6	7	8	9	10	11	12
1												
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65												
66												
67												
68												
69												

No.	2013											
	1	2	3	4	5	6	7	8	9	10	11	12
1										48		
2												
3												
4												
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23										56		
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32												
33	52	52	52									
34		57	57	57	57	57	57	57	57			
35		62	62	62								
36				62	62	62	62	62	62			
37										51	51	51
38				55	55	55						
39					60	60	60	60	60	60	60	60
40					65	65	65					
41							65	65	65	65	65	65
42				53	53	53	53	53	53	53	53	53
43												
44	60	60	60	60	60							
45					45	45						
46					62	62	62					
47					63	63	63	63	63			
48									49	49		
49										66	66	66
50								56	56	56	56	
51										41	41	
52											58	58
53												54
54				39	39							
55					56	56						
56	51	51										
57			37	37	37							
58			54	54	54	54	54					
59					51	51	51					
60						50	50	50				
61			48	48	48	48						
62						53	53	53	53			
63												
64												
65												
66												
67												
68												
69												

No.	2014											
	1	2	3	4	5	6	7	8	9	10	11	12
1												
2												
3				49	49	49	49					
4												
5							51	51	51	51		
6												
7										52	52	52
8												
9	55	55	55	55	55	55	55					
10												
11										57	57	57
12												
13		61	61	61	61							
14												
15					67	67	67	67				
16										70	70	
17								73	73	73	73	
18												76
19		66	66	66								
20									69	69		
21							59	59	59			
22											61	61
23												
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37	51	51	51	51	51	51	51	51	51	51	51	51
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43	53	53	53	53	53	53	53	53	53	53	53	53
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63												61
64												58
65												68
66												65
67												65
68												62
69												59

No.	2015											
	1	2	3	4	5	6	7	8	9	10	11	12
1												
2		45										
3												
4		52	52									
5												
6			54	54								
7	52	52										
8				55	55							
9												
10			57	57	57							
11	57											
12		60	60									
13												
14		64	64									
15												
16												
17												
18	76											
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21												
22												
23												
24		53										
25								43	43			
26									48	48	48	48
27									53	53		
28										53	53	53
29		73	73									
30			75	75	75							
31			80									
32				80	80	80						
33												
34												
35												
36												
37	51	51	51	51	51	51	51	51	51	51	51	51
38												
39												
40												
41												
42												
43	53	53	53	53	53	53	53	53	53	53	53	53
44												
45												
46												
47												
48												
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50												
51												
52												
53												
54												
55												
56												
57												
58												
59												
60												
61												
62												
63	61	61	61	61	61	61	61	61	61	61	61	61
64	58	58	58	58	58	58	58	58	58	58	58	58
65	68	68	68	68	68	68	68	68	68	68	68	68
66	65	65	65	65	65	65	65	65	65	65	65	65
67	65	65	65	65	65	65	65	65	65	65	65	65
68	62	62	62	62	62	62	62	62	62	62	62	62
69	59	59	59	59	59	59	59	59	59	59	59	59

No.	2016											
	1	2	3	4	5	6	7	8	9	10	11	12
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26	48											
27												
28	53											
29												
30												
31												
32												
33												
34												
35												
36												
37	51	51	51	51	51	51	51					
38												
39												
40												
41												
42												
43	53	53	53	53	53	53	53					
44												
45												
46												
47												
48												
49												
50												
51												
52												
53												
54												
55												
56												
57												
58												
59												
60												
61												
62												
63	61											
64	58	58	58									
65	68											
66	65	65	65									
67	65											
68	62	62	62									
69	59											

No.	2017												2018											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
1-69																								

Annex B4-c

Construction Noise Assessment

NSR: MTW-12-4-1 352-354 Ma Tau Wai Rd (North Facade)

No.	Activity Description	SWL dB(A)[2]	Distance m	Corr. for distance dB(A)[1][2]	Corr. for façade dB(A)	Max. CNL dB(A)
70	Top Down Construction	99	80	-46	3	
	MTW Stage 3 S58					
71	Top Down Construction	102	125	-50	3	
72	Top Down Construction	99	125	-50	3	
	MTW Stage 3 S60					
73	Top Down Construction	102	180	-53	3	
74	Top Down Construction	99	180	-53	3	
	MTW TKW Garden					
75	Bentonite Plant	102	290	-57	3	
	MTW SSS					
76	Storage Area	102	n/a	--	3	
77	Storage Area	95	n/a	--	3	
	EKW Pier 15					
80	Pier Work	96	n/a	--	3	
81	Pier Work	104	n/a	--	3	
82	Pier Work	103	n/a	--	3	
83	Pier Work	100	n/a	--	3	
84	Pier Work	100	n/a	--	3	
	Worksite EEP					
85	Shaft	108	n/a	--	3	
	Predicted Noise Level during Daytime Period, dB(A)					82

Predicted Construction Noise Level (dB(A))

No.	2012												2013											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
75												48	48	48	48	48	48	48	48	48	48	48	48	48
Predicted Noise Level during Daytime Period, dB(A)												61	61	65	66	68	71	71	72	70	70	70	70	70

No.	2014												2015											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
70												56	56	56	56	56	56	56	56	56	56	56	56	56
71												55	55	55	55	55	55	55	55	55	55	55	55	55
72												52	52	52	52	52	52	52	52	52	52	52	52	52
73												52	52	52	52	52	52	52	52	52	52	52	52	52
74												49	49	49	49	49	49	49	49	49	49	49	49	49
75	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48				
Predicted Noise Level during Daytime Period, dB(A)	60	68	68	68	69	68	68	74	75	76	75	78	77	76	82	82	82	80	72	72	73	73	73	73

No.	2016												2017												2018											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
70	56	56	56																																	
71	55																																			
72	52	52	52																																	
73	52																																			
74	49	49	49																																	
Predicted Noise Level during Daytime Period, dB(A)	73	68	68	55	55	55	55																													

Note:

[1] Distance Correction for PMEs = 10*log(2*PI*r^2)

[2] The figures are rounded-up to a whole number.

[3] Distance more than 300m from the works area were not assessed

Annex B4-d

Construction Noise Assessment

NSR: MTW-12-10 Lucky Building (South Facade)

No.	Activity Description	SWL dB(A)[2]	Distance m	Corr. for distance dB(A)[1][2]	Corr. for façade dB(A)	Predicted Construction Noise Level (dB(A)) 2012												2013												2014												2015												2016												2017												2018												Max. CNL dB(A)
						1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	
	Daytime Period																																																																																								
	MTW Station Construction + EEP																																																																																								
	MTW Stage 1 S1																																																																																								
1	Works in S1	100	70	-45	3																						58																																																															
2	Works in S1	97	70	-45	3																																						55																																															
	MTW Stage 1 S2																																																																																								
3	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	45	-41	3																												62	62	62	62																																																							
4	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	45	-41	3																																						65	65																																													
	MTW Stage 1 S4																																																																																								
5	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	22	-35	3																															69	69	69	69																																																			
6	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	22	-35	3																																							71	71																																											
	MTW Stage 1 S6																																																																																								
7	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	23	-35	3																																		68	68	68	68	68																																													
8	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	23	-35	3																																								71	71																																										
	MTW Stage 1 S8																																																																																									
9	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	45	-41	3																									62	62	62	62	62	62	62																																																								
10	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	45	-41	3																																							65	65	65																																											
	MTW Stage 1 S10																																																																																								
11	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	75	-45	3																																		58	58	58	58																																																
12	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	75	-45	3																																						61	61																																													
	MTW Stage 1 S12																																																																																								
13	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	105	-48	3																										55	55	55	55																																																									
14	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	105	-48	3																																						58	58																																													
	MTW Stage 1 S14																																																																																								
15	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	135	-51	3																													53	53	53	53																																																					
16	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	135	-51	3																																		56	56																																																	
	MTW Stage 1 S16																																																																																								
17	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	165	-52	3																																54	54	54	54																																																	
18	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	106	165	-52	3																																				57	57																																															
	MTW Stage 1 S18																																																																																								
19	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	200	-54	3																										52	52	52																																																										
20	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	106	200	-54	3																																	55	55																																																		
	MTW Stage 1 S20																																																																																								
21	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	235	-55	3																															48	48	48																																																			
22	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	235	-55	3																																			51	51																																																
	MTW Stage 1 S21																																																																																								
23	Works in S21	100	260	-56	3																						47																																																																
24	Works in S21	97	260	-56	3																																						44																																															
	MTW Stage 1 & 2 S22																																																																																								
25	Entrance and Adits	93	8	-26	3																																												70	70																																								
26	Entrance and Adits	98	8	-26	3																																													75	75	75	75	75																																			
27	Entrance and Adits	103	8	-26	3																																													80	80																																						
28	Entrance and Adits	103	8	-26	3																																														80	80	80	80																																		
	MTW Stage 1 & 2 S24																																																																																							
29	Entrance and Adits	96	170	-53	3																																						46	46																																													
30	Entrance and Adits	98	170	-53	3																																							48	48	48																																											
31	Entrance and Adits	103	170	-53	3																																							53																																													
32	Entrance and Adits	103	170	-53	3																																								53	53	53																																										
	MTW Stage 2 &3 S26																																																																																								
33	Entrance and Adits	93	110	-49	3													47	47	47																																																																									
34	Entrance and Adits	98	110	-49	3														52	52	52	52	52	52	52	52																																																																		
35	Entrance and Adits	103	110	-49	3														57	57	57																																																																									
36	Entrance and Adits	103	110	-49	3																57	57	57	57	57	57																																																																		
37	Entrance and Adits	91	110	-49	3																						46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46																														
	MTW Stage 2 & 3 S28																																																																																								
38	Entrance and Adits	93	160	-52	3																43	43	43																																																																						
39	Entrance and Adits	98	160	-52	3																	49	49	49	49	49	49	49	49																																																																
40	Entrance and Adits	103	160	-52	3																	54	54	54																																																																					
41	Entrance and Adits	103	160	-52	3																			54	54	54	54	54	54																																																																
42	Entrance and Adits	91	160	-52	3																42	42	42	42	42	42	42	42	42																																																															
43	Entrance and Adits	91	160	-52	3																									42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42																														
	MTW Stage 2 S30																																																																																								
44	Roof Slab East Side of Ma Tau Wai Road	100	210	-54	3												49	49	49	49	49	49																																																																						
45	Roof Slab East Side of Ma Tau Wai Road	86	210	-54	3																	35	35																																																																							
46	Roof Slab East Side of Ma Tau Wai Road	103	210	-54	3																	52	52	52																																																																						
	MTW Stage 2 S32																																																																																								
47	Roof Slab East Side of Ma Tau Wai Road	100	120	-50	3																	54	54	54	54	54																																																																		
48	Roof Slab East Side of Ma Tau Wai Road	86	120	-50	3																					39	39																																																																			
49	Roof Slab East Side of Ma Tau Wai Road	103	120	-50	3																						56	56	56																																																																
	MTW Stage 2 S34																																																																																								
50	Roof Slab East Side of Ma Tau Wai Road	100	70	-45	3																				59	59	59	59																																																																		
51	Roof Slab East Side of Ma Tau Wai Road	86	70	-45	3																						44	44																																																																		
52	Roof Slab East Side of Ma Tau Wai Road	103	70	-45	3																							61	61																																																																	
	MTW Stage 2 S36																																																																																								
53	Roof Slab East Side of Ma Tau Wai Road	100	50	-42	3																								61	61	61	61																																																												
54	Roof Slab East Side of Ma Tau Wai Road	86	50	-42	3																47	47																																																																								
55	Roof Slab East Side of Ma Tau Wai Road	103	50	-42	3																	64	64																																																																							
	MTW Stage 2 S38																																																																																							
56	Roof Slab East Side of Ma Tau Wai Road	100	28	-37	3												66	66	66																																																																									
57	Roof Slab East Side of Ma Tau Wai Road	86	28	-37	3															52	52	52																																																																						
58	Roof Slab East Side of Ma Tau Wai Road	103	28	-37	3															69	69	69	69	69																																																																			
	MTW Stage 2 & 3 S40																																																																																							
59	Roof Slab West Side of Ma Tau Wai Road	103	80	-46	3																	60	60	60																																																																			
60	Roof Slab West Side of Ma Tau Wai Road	103	80	-46	3																		60	60	60																																																																		
	MTW Stage 1 & 2 S42																																																																																							
61	Roof Slab West Side of Ma Tau Wai Road	101	110	-49	3															56	56	56	56																																																																			
62	Roof Slab West Side of Ma Tau Wai Road	106	110	-49	3																		60	60	60	60																																																																
	MTW Stage 3 S50																																																																																								
63	Top Down Construction	102	220	-55	3																																				50	50	50	50	50	50	50	50	50	50	50	50	50	50																																			
64	Top Down Construction	99	220	-55	3																																				47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47																																
	MTW Stage 3 S52																																																																																									
65	Top Down Construction	102	170	-53	3																																				52	52	52	52	52	52	52	52	52	52	52	52	52	52																																		
66	Top Down Construction	99	170	-53	3																																				49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49																																
	MTW Stage 3 S54																																																																																								
67	Top Down Construction	102	120	-50	3																																				55	55	55	55	55	55	55	55	55	55	55	55	55	55																																		
68	Top Down Construction	99	120	-50	3																																				52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52																																
	MTW Stage 3 S56																																																																																									
69	Top Down Construction	102	70	-45	3																																				60	60	60	60	60	60	60	60	60	60	60	60	60	60																																		

Annex B4-d

Construction Noise Assessment

NSR: MTW-12-10 Lucky Building (South Facade)

Predicted Construction Noise Level (dB(A))

No.	Activity Description	SWL dB(A)[2]	Distance m	Corr. for distance dB(A)[1][2]	Corr. for façade dB(A)	2012											
						1	2	3	4	5	6	7	8	9	10	11	12
70	Top Down Construction	99	70	-45	3												
	MTW Stage 3 S58																
71	Top Down Construction	102	30	-38	3												
72	Top Down Construction	99	30	-38	3												
	MTW Stage 3 S60																
73	Top Down Construction	102	35	-39	3												
74	Top Down Construction	99	35	-39	3												
	MTW TKW Garden																
75	Bentonite Plant	102	135	-51	3												54
	MTW SSS																
76	Storage Area	102	275	-57	3											48	48
77	Storage Area	95	275	-57	3												
	EKW Pier 15																
80	Pier Work	96	140	-51	3												
81	Pier Work	104	140	-51	3												
82	Pier Work	103	140	-51	3												
83	Pier Work	100	140	-51	3												
84	Pier Work	100	140	-51	3												
	Worksite EEP																
85	Shaft	108	n/a	--	3												
	Predicted Noise Level during Daytime Period, dB(A)															48	67

No.	Activity Description	2013												2014											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
70	Top Down Construction																								57
	MTW Stage 3 S58																								
71	Top Down Construction																								67
72	Top Down Construction																								64
	MTW Stage 3 S60																								
73	Top Down Construction																								66
74	Top Down Construction																								63
	MTW TKW Garden																								
75	Bentonite Plant	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
	MTW SSS																								
76	Storage Area	48	48																						
77	Storage Area			41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
	EKW Pier 15																								
80	Pier Work													48	48										
81	Pier Work												56	56	56										
82	Pier Work															55									
83	Pier Work																52	52							
84	Pier Work																			52	52	52	52	52	52
	Worksite EEP																								
85	Shaft																								
	Predicted Noise Level during Daytime Period, dB(A)	67	67	70	70	71	72	71	66	65	64	65	66	66	66	66	66	66	66	71	69	69	72	69	74

No.	Activity Description	2015												2016											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
70	Top Down Construction	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57									
	MTW Stage 3 S58																								
71	Top Down Construction	67	67	67	67	67	67	67	67	67	67	67	67	67											
72	Top Down Construction	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64									
	MTW Stage 3 S60																								
73	Top Down Construction	66	66	66	66	66	66	66	66	66	66	66	66	66											
74	Top Down Construction	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63									
	MTW TKW Garden																								
75	Bentonite Plant	54	54	54	54	54	54	54	54																
	MTW SSS																								
76	Storage Area																								
77	Storage Area	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
	EKW Pier 15																								
80	Pier Work																								
81	Pier Work																								
82	Pier Work																								
83	Pier Work																								
84	Pier Work	52	52	52																					
	Worksite EEP																								
85	Shaft																								
	Predicted Noise Level during Daytime Period, dB(A)	74	75	76	77	75	72	72	74	82	84	81	81	81	67	67	48	48	48	48	41	41	41	41	41

No.	Activity Description	2017												2018												Max. CNL
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	dB(A)
70	Top Down Construction																									
	MTW Stage 3 S58																									
71	Top Down Construction																									
72	Top Down Construction																									
	MTW Stage 3 S60																									
73	Top Down Construction																									
74	Top Down Construction																									
	MTW TKW Garden																									
75	Bentonite Plant																									
	MTW SSS																									
76	Storage Area																									
77	Storage Area	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41								
	EKW Pier 15																									
80	Pier Work																									
81	Pier Work																									
82	Pier Work																									
83	Pier Work																									
84	Pier Work																									
	Worksite EEP																									
85	Shaft																									
	Predicted Noise Level during Daytime Period, dB(A)	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41								84

Note:

[1] Distance Correction for PMEs = 10*log(2*PI*r^2)

[2] The figures are rounded-up to a whole number.

[3] Distance more than 300m from the works area were not assessed

Annex B4-e

Construction Noise Assessment

NSR: MTW-12-10-1 Lucky Building (East Facade)

No.	Activity Description	SWL dB(A)[2]	Distance m	Corr. for distance dB(A)[1][2]	Corr. for façade dB(A)	Max. CNL dB(A)
	Daytime Period					
	MTW Station Construction + EEP					
	MTW Stage 1 S1					
1	Works in S1	100	75	-45	3	
2	Works in S1	97	75	-45	3	
	MTW Stage 1 S2					
3	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	50	-42	3	
4	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	50	-42	3	
	MTW Stage 1 S4					
5	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	20	-34	3	
6	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	20	-34	3	
	MTW Stage 1 S6					
7	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	12	-30	3	
8	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	12	-30	3	
	MTW Stage 1 S8					
9	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	35	-39	3	
10	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	35	-39	3	
	MTW Stage 1 S10					
11	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	65	-44	3	
12	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	65	-44	3	
	MTW Stage 1 S12					
13	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	95	-48	3	
14	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	95	-48	3	
	MTW Stage 1 S14					
15	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	125	-50	3	
16	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	125	-50	3	
	MTW Stage 1 S16					
17	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	155	-52	3	
18	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	106	155	-52	3	
	MTW Stage 1 S18					
19	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	195	-54	3	
20	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	106	195	-54	3	
	MTW Stage 1 S20					
21	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	225	-55	3	
22	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	225	-55	3	
	MTW Stage 1 S21					
23	Works in S21	100	250	-56	3	
24	Works in S21	97	250	-56	3	
	MTW Stage 1 & 2 S22					
25	Entrance and Adits	93	17	-33	3	
26	Entrance and Adits	98	17	-33	3	
27	Entrance and Adits	103	17	-33	3	
28	Entrance and Adits	103	17	-33	3	
	MTW Stage 1 & 2 S24					
29	Entrance and Adits	96	160	-52	3	
30	Entrance and Adits	98	160	-52	3	
31	Entrance and Adits	103	160	-52	3	
32	Entrance and Adits	103	160	-52	3	
	MTW Stage 2 &3 S26					
33	Entrance and Adits	93	95	-48	3	
34	Entrance and Adits	98	95	-48	3	
35	Entrance and Adits	103	95	-48	3	
36	Entrance and Adits	103	95	-48	3	
37	Entrance and Adits	91	95	-48	3	
	MTW Stage 2 & 3 S28					
38	Entrance and Adits	93	150	-52	3	
39	Entrance and Adits	98	150	-52	3	
40	Entrance and Adits	103	150	-52	3	
41	Entrance and Adits	103	150	-52	3	
42	Entrance and Adits	91	150	-52	3	
43	Entrance and Adits	91	150	-52	3	
	MTW Stage 2 S30					
44	Roof Slab East Side of Ma Tau Wai Road	100	200	-54	3	
45	Roof Slab East Side of Ma Tau Wai Road	86	200	-54	3	
46	Roof Slab East Side of Ma Tau Wai Road	103	200	-54	3	
	MTW Stage 2 S32					
47	Roof Slab East Side of Ma Tau Wai Road	100	105	-48	3	
48	Roof Slab East Side of Ma Tau Wai Road	86	105	-48	3	
49	Roof Slab East Side of Ma Tau Wai Road	103	105	-48	3	
	MTW Stage 2 S34					
50	Roof Slab East Side of Ma Tau Wai Road	100	55	-43	3	
51	Roof Slab East Side of Ma Tau Wai Road	86	55	-43	3	
52	Roof Slab East Side of Ma Tau Wai Road	103	55	-43	3	
	MTW Stage 2 S36					
53	Roof Slab East Side of Ma Tau Wai Road	100	35	-39	3	
54	Roof Slab East Side of Ma Tau Wai Road	86	35	-39	3	
55	Roof Slab East Side of Ma Tau Wai Road	103	35	-39	3	
	MTW Stage 2 S38					
56	Roof Slab East Side of Ma Tau Wai Road	100	25	-36	3	
57	Roof Slab East Side of Ma Tau Wai Road	86	25	-36	3	
58	Roof Slab East Side of Ma Tau Wai Road	103	25	-36	3	
	MTW Stage 2 & 3 S40					
59	Roof Slab West Side of Ma Tau Wai Road	103	90	-47	3	
60	Roof Slab West Side of Ma Tau Wai Road	103	90	-47	3	
	MTW Stage 1 & 2 S42					
61	Roof Slab West Side of Ma Tau Wai Road	101	115	-49	3	
62	Roof Slab West Side of Ma Tau Wai Road	106	115	-49	3	
	MTW Stage 3 S50					
63	Top Down Construction	102	210	-54	3	
64	Top Down Construction	99	210	-54	3	
	MTW Stage 3 S52					
65	Top Down Construction	102	155	-52	3	
66	Top Down Construction	99	155	-52	3	
	MTW Stage 3 S54					
67	Top Down Construction	102	110	-49	3	
68	Top Down Construction	99	110	-49	3	
	MTW Stage 3 S56					
69	Top Down Construction	102	60	-44	3	

Predicted Construction Noise Level (dB(A))

2012

No.	1	2	3	4	5	6	7	8	9	10	11	12
44												49
56												67

2013

No.	1	2	3	4	5	6	7	8	9	10	11	12
1										58		
23										47		
33	48	48	48									
34		53	53	53	53	53	53	53	53			
35		58	58	58								
36				58	58	58	58	58	58			
37										47	47	47
38				44	44	44						
39					49	49	49	49	49	49	49	49
40					54	54	54					
41							55	55	55	55	55	55
42				42	42	42	42	42	42	42	42	42
44	49	49	49	49	49							
45					35	35						
46					52	52	52					
47					55	55	55	55	55			
48									41	41		
49										58	58	58
50								61	61	61	61	
51										46	46	
52											63	63
53												65
54				50	50							
55					67	67						
56	67	67										
57			53	53	53							
58			70	70	70	70	70					
59					59	59	59					
60						59	59	59				
61			55	55	55	55						
62						60	60	60	60			

2014

No.	1	2	3	4	5	6	7	8	9	10	11	12
3				61	61	61	61					
5							69	69	69	69		
7										74	74	74
9	65	65	65	65	65	65	65					
11										59	59	59
13		56	56	56	56							
15					53	53	53	53				
16										56	56	
17								55	55	55	55	
18												57
19		53	53	53								
20									55	55		
21							48	48	48			
22											51	51
37	47	47	47	47	47	47	47	47	47	47	47	47
43	43	43	43	43	43	43	43	43	43	43	43	43
53	65	65	65									
63												50
64												47
65												53
66												50
67												56
68												53
69												61

2015

No.	1	2	3	4	5	6	7	8	9	10	11	12
2		55										
4		64	64									
6			72	72								
7	74	74										
8				77	77							
10			67	67	67							
11	59											
12		62	62									
14		59	59									
18	57											
24		44										
25								63	63			
26									68	68	68	68
27									73	73		
28										73	73	73
29		46	46									
30			49	49	49							
31			54									
32				54	54	54						
37	47	47	47	47	47	47	47	47	47	47	47	47
43	43	43	43	43	43	43	43	43	43	43	43	43
63	50	50	50	50	50	50	50	50	50	50	50	50
64	47	47	47	47	47	47	47	47	47	47	47	47
65	53	53	53	53	53	53	53	53	53	53	53	53
66	50	50	50	50	50	50	50	50	50	50	50	50
67	56	56	56	56	56	56	56	56	56	56	56	56
68	53	53	53	53	53	53	53	53	53	53	53	53
69	61	61	61	61	61	61	61	61	61	61	61	61

2016

No.	1	2	3	4	5	6	7	8	9	10	11	12
26	68											
28	73											
37	47	47	47	47	47	47	47					
43	43	43	43	43	43	43	43					
63	50											
64	47	47	47									
65	53											
66	50	50	50									
67	56											
68	53	53	53									
69	61											

2017

No.	1	2	3	4	5	6	7	8	9	10	11	12

2018

No.	1	2	3	4	5	6	7	8	9	10	11	12

Annex B4-e

Construction Noise Assessment

NSR: MTW-12-10-1 Lucky Building (East Facade)

No.	Activity Description	SWL dB(A)[2]	Distance m	Corr. for distance dB(A)[1][2]	Corr. for façade dB(A)
70	Top Down Construction	99	60	-44	3
	MTW Stage 3 S58				
71	Top Down Construction	102	21	-34	3
72	Top Down Construction	99	21	-34	3
	MTW Stage 3 S60				
73	Top Down Construction	102	35	-39	3
74	Top Down Construction	99	35	-39	3
	MTW TKW Garden				
75	Bentonite Plant	102	125	-50	3
	MTW SSS				
76	Storage Area	102	285	-57	3
77	Storage Area	95	285	-57	3
	EKW Pier 15				
80	Pier Work	96	145	-51	3
81	Pier Work	104	145	-51	3
82	Pier Work	103	145	-51	3
83	Pier Work	100	145	-51	3
84	Pier Work	100	145	-51	3
	Worksite EEP				
85	Shaft	108	n/a	--	3
	Predicted Noise Level during Daytime Period, dB(A)				

Predicted Construction Noise Level (dB(A))

No.	Activity Description	2012												2013											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
70	Top Down Construction																								
	MTW Stage 3 S58																								
71	Top Down Construction																								
72	Top Down Construction																								
	MTW Stage 3 S60																								
73	Top Down Construction																								
74	Top Down Construction																								
	MTW TKW Garden																								
75	Bentonite Plant												55	55	55	55	55	55	55	55	55	55	55	55	55
	MTW SSS																								
76	Storage Area											47	47	47	47										
77	Storage Area															41	41	41	41	41	41	41	41	41	41
	EKW Pier 15																								
80	Pier Work																								
81	Pier Work																								56
82	Pier Work																								
83	Pier Work																								
84	Pier Work																								
	Worksite EEP																								
85	Shaft																								
	Predicted Noise Level during Daytime Period, dB(A)											47	68	68	68	71	71	73	73	72	67	66	65	67	68

No.	Activity Description	2014												2015											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
70	Top Down Construction												58	58	58	58	58	58	58	58	58	58	58	58	58
	MTW Stage 3 S58																								
71	Top Down Construction												70	70	70	70	70	70	70	70	70	70	70	70	70
72	Top Down Construction												67	67	67	67	67	67	67	67	67	67	67	67	67
	MTW Stage 3 S60																								
73	Top Down Construction												66	66	66	66	66	66	66	66	66	66	66	66	66
74	Top Down Construction												63	63	63	63	63	63	63	63	63	63	63	63	63
	MTW TKW Garden																								
75	Bentonite Plant	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55				
	MTW SSS																								
76	Storage Area																								
77	Storage Area	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
	EKW Pier 15																								
80	Pier Work	47	47																						
81	Pier Work	56	56																						
82	Pier Work			54																					
83	Pier Work				52	52																			
84	Pier Work							51	51	51	51	51	51	51	51	51									
	Worksite EEP																								
85	Shaft																								
	Predicted Noise Level during Daytime Period, dB(A)	68	69	68	67	67	67	71	70	70	75	74	77	77	77	77	80	79	74	74	74	77	79	77	77

No.	Activity Description	2016												2017												2018												Max. CNL
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	dB(A)
70	Top Down Construction	58	58	58																																		
	MTW Stage 3 S58																																					
71	Top Down Construction	70																																				
72	Top Down Construction	67	67	67																																		
	MTW Stage 3 S60																																					
73	Top Down Construction	66																																				
74	Top Down Construction	63	63	63																																		
	MTW TKW Garden																																					
75	Bentonite Plant																																					
	MTW SSS																																					
76	Storage Area																																					
77	Storage Area	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41								
	EKW Pier 15																																					
80	Pier Work																																					
81	Pier Work																																					
82	Pier Work																																					
83	Pier Work																																					
84	Pier Work																																					
	Worksite EEP																																					
85	Shaft																																					
	Predicted Noise Level during Daytime Period, dB(A)	77	69	69	49	49	49	49	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41								80

Note:

[1] Distance Correction for PMEs = 10*log(2*PI*r^2)

[2] The figures are rounded-up to a whole number.

[3] Distance more than 300m from the works area were not assessed

Annex B4-f

Construction Noise Assessment

NSR: MTW-12-11 Jing Ming Building

No.	Activity Description	SWL dB(A)[2]	Distance m	Corr. for distance dB(A)[1][2]	Corr. for façade dB(A)	Predicted Construction Noise Level (dB(A))																																																																																		Max. CNL dB(A)
						2012												2013												2014												2015												2016												2017												2018												
						1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	
	Daytime Period																																																																																										
	MTW Station Construction + EEP																																																																																									
	MTW Stage 1 S1																																																																																										
1	Works in S1	100	250	-56	3																						47																																																														
2	Works in S1	97	250	-56	3																																						44																																																		
	MTW Stage 1 S2																																																																																										
3	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	225	-55	3																												48	48	48	48																																																								
4	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	225	-55	3																																						51	51																																																	
	MTW Stage 1 S4																																																																																										
5	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	190	-54	3																														50	50	50	50																																																		
6	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	190	-54	3																																							53	53																																																
	MTW Stage 1 S6																																																																																									
7	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	155	-52	3																																	52	52	52	52	52																																																		
8	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	155	-52	3																																								54	54																																															
	MTW Stage 1 S8																																																																																									
9	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	125	-50	3																									53	53	53	53	53	53	53																																																										
10	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	125	-50	3																																							56	56	56																																															
	MTW Stage 1 S10																																																																																									
11	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	95	-48	3																																	56	56	56	56																																																				
12	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	95	-48	3																																						59	59																																																	
	MTW Stage 1 S12																																																																																									
13	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	65	-44	3																										59	59	59	59																																																													
14	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	65	-44	3																																						62	62																																																	
	MTW Stage 1 S14																																																																																									
15	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	40	-40	3																													63	63	63	63																																																								
16	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	40	-40	3																																			66	66																																																				
	MTW Stage 1 S16																																																																																									
17	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	15	-32	3																																75	75	75	75																																																						
18	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	106	15	-32	3																																					78	78																																																		
	MTW Stage 1 S18																																																																																									
19	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	26	-36	3																										70	70	70																																																														
20	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	106	26	-36	3																																		73	73																																																			
	MTW Stage 1 S20																																																																																									
21	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	50	-42	3																															61	61	61																																																								
22	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	50	-42	3																																				64	64																																																				
	MTW Stage 1 S21																																																																																									
23	Works in S21	100	75	-45	3																						58																																																																				
24	Works in S21	97	75	-45	3																																						55																																																		
	MTW Stage 1 & 2 S22																																																																																											
25	Entrance and Adits	93	190	-54	3																																												42	42																																								
26	Entrance and Adits	98	190	-54	3																																													47	47	47	47	47																																							
27	Entrance and Adits	103	190	-54	3																																													52	52																																						
28	Entrance and Adits	103	190	-54	3																																														52	52	52	52																																							
	MTW Stage 1 & 2 S24																																																																																											
29	Entrance and Adits	96	10	-28	3																																						71	71																																																	
30	Entrance and Adits	98	10	-28	3																																							73	73	73																																															
31	Entrance and Adits	103	10	-28	3																																							78																																																		
32	Entrance and Adits	103	10	-28	3																																								78	78	78																																														
	MTW Stage 2 &3 S26																																																																																												
33	Entrance and Adits	93	70	-45	3													51	51	51																																																																									
34	Entrance and Adits	98	70	-45	3														56	56	56	56	56	56	56	56																																																																					
35	Entrance and Adits	103	70	-45	3														61	61	61																																																																									
36	Entrance and Adits	103	70	-45	3																61	61	61	61	61	61																																																																				
37	Entrance and Adits	91	70	-45	3																						49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49																																		
	MTW Stage 2 & 3 S28																																																																																											
38	Entrance and Adits	93	45	-41	3																55	55	55																																																																							
39	Entrance and Adits	98	45	-41	3																	60	60	60	60	60	60	60	60																																																																	
40	Entrance and Adits	103	45	-41	3																	65	65	65																																																																						
41	Entrance and Adits	103	45	-41	3																			65	65	65	65	65	65																																																																	
42	Entrance and Adits	91	45	-41	3																53	53	53	53	53	53	53	53	53																																																															
43	Entrance and Adits	91	45	-41	3																									53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53																																		
	MTW Stage 2 S30																																																																																										
44	Roof Slab East Side of Ma Tau Wai Road	100	45	-41	3												62	62	62	62	62	62																																																																									
45	Roof Slab East Side of Ma Tau Wai Road	86	45	-41	3																	48	48																																																																									
46	Roof Slab East Side of Ma Tau Wai Road	103	45	-41	3																	65	65	65																																																																						
	MTW Stage 2 S32																																																																																									
47	Roof Slab East Side of Ma Tau Wai Road	100	50	-42	3																	61	61	61	61	61																																																																					
48	Roof Slab East Side of Ma Tau Wai Road	86	50	-42	3																					47	47																																																																				
49	Roof Slab East Side of Ma Tau Wai Road	103	50	-42	3																						64	64	64																																																																			
	MTW Stage 2 S34																																																																																									
50	Roof Slab East Side of Ma Tau Wai Road	100	110	-49	3																				55	55	55	55																																																																			
51	Roof Slab East Side of Ma Tau Wai Road	86	110	-49	3																						40	40																																																																			
52	Roof Slab East Side of Ma Tau Wai Road	103	110	-49	3																							57	57																																																																		
	MTW Stage 2 S36																																																																																									
53	Roof Slab East Side of Ma Tau Wai Road	100	140	-51	3																								52	52	52	52																																																															
54	Roof Slab East Side of Ma Tau Wai Road	86	140	-51	3																38	38																																																																										
55	Roof Slab East Side of Ma Tau Wai Road	103	140	-51	3																	55	55																																																																										
	MTW Stage 2 S38																																																																																									
56	Roof Slab East Side of Ma Tau Wai Road	100	175	-53	3												51	51	51																																																																										
57	Roof Slab East Side of Ma Tau Wai Road	86	175	-53	3															36	36	36																																																																								
58	Roof Slab East Side of Ma Tau Wai Road	103	175	-53	3															53	53	53	53	53																																																																						
	MTW Stage 2 & 3 S40																																																																																											
59	Roof Slab West Side of Ma Tau Wai Road	103	260	-56	3																	50	50	50																																																																						
60	Roof Slab West Side of Ma Tau Wai Road	103	260	-56	3																		50	50	50																																																																					
	MTW Stage 1 & 2 S42																																																																																											
61	Roof Slab West Side of Ma Tau Wai Road	101	285	-57	3															47	47	47	47																																																																					
62	Roof Slab West Side of Ma Tau Wai Road	106	285	-57	3																		52	52	52	52																																																																			
	MTW Stage 3 S50																																																																																										
63	Top Down Construction	102	45	-41	3																																					64	64	64	64	64	64	64	64	64	64	64	64	64	64																																			
64	Top Down Construction	99	45	-41	3																																					61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61																																		
	MTW Stage 3 S52																																																																																											
65	Top Down Construction	102	17	-33	3																																					72	72	72	72	72	72	72	72	72	72	72	72	72	72																																			
66	Top Down Construction	99	17	-33	3																																					69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69																																		
	MTW Stage 3 S54																																																																																												
67	Top Down Construction	102	50	-42	3																																					63	63	63	63	63	63	63	63	63	63	63	63	63	63																																			
68	Top Down Construction	99	50	-42	3																																					60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60																																		
	MTW Stage 3 S56																																																																																											
69	Top Down Construction	102	95	-48	3																																					57	57	57	57	57	57	57	57	57	57	57	57	57	57																																			

Annex B4-f

Construction Noise Assessment

NSR: MTW-12-11 Jing Ming Building

No.	Activity Description	SWL dB(A)[2]	Distance m	Corr. for distance dB(A)[1][2]	Corr. for façade dB(A)	Max. CNL dB(A)
70	Top Down Construction	99	95	-48	3	
	MTW Stage 3 S58					
71	Top Down Construction	102	145	-51	3	
72	Top Down Construction	99	145	-51	3	
	MTW Stage 3 S60					
73	Top Down Construction	102	200	-54	3	
74	Top Down Construction	99	200	-54	3	
	MTW TKW Garden					
75	Bentonite Plant	102	n/a	--	3	
	MTW SSS					
76	Storage Area	102	n/a	--	3	
77	Storage Area	95	n/a	--	3	
	EKW Pier 15					
80	Pier Work	96	n/a	--	3	
81	Pier Work	104	n/a	--	3	
82	Pier Work	103	n/a	--	3	
83	Pier Work	100	n/a	--	3	
84	Pier Work	100	n/a	--	3	
	Worksite EEP					
85	Shaft	108	n/a	--	3	
	Predicted Noise Level during Daytime Period, dB(A)					81

Predicted Construction Noise Level (dB(A))

No.	2012												2013											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
70																								
MTW Stage 3 S58																								
71																								
72																								
MTW Stage 3 S60																								
73																								
74																								
MTW TKW Garden																								
75																								
MTW SSS																								
76																								
77																								
EKW Pier 15																								
80																								
81																								
82																								
83																								
84																								
Worksite EEP																								
85																								
Predicted Noise Level during Daytime Period, dB(A)												63	63	66	66	67	71	71	71	69	69	69	69	69

No.	2014												2015											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
70												54	54	54	54	54	54	54	54	54	54	54	54	54
MTW Stage 3 S58																								
71												54	54	54	54	54	54	54	54	54	54	54	54	54
72												51	51	51	51	51	51	51	51	51	51	51	51	51
MTW Stage 3 S60																								
73												51	51	51	51	51	51	51	51	51	51	51	51	51
74												48	48	48	48	48	48	48	48	48	48	48	48	48
MTW TKW Garden																								
75																								
MTW SSS																								
76																								
77																								
EKW Pier 15																								
80																								
81																								
82																								
83																								
84																								
Worksite EEP																								
85																								
Predicted Noise Level during Daytime Period, dB(A)	58	71	71	71	66	64	66	75	77	77	76	80	80	77	81	81	81	80	75	75	75	75	75	75

No.	2016												2017												2018											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
70	54	54	54																																	
MTW Stage 3 S58																																				
71	54																																			
72	51	51	51																																	
MTW Stage 3 S60																																				
73	51																																			
74	48	48	48																																	
MTW TKW Garden																																				
75																																				
MTW SSS																																				
76																																				
77																																				
EKW Pier 15																																				
80																																				
81																																				
82																																				
83																																				
84																																				
Worksite EEP																																				
85																																				
Predicted Noise Level during Daytime Period, dB(A)	75	70	70	55	55	55	55																													

Note:

[1] Distance Correction for PMEs = $10*\log(2*PI*r^2)$

[2] The figures are rounded-up to a whole number.

[3] Distance more than 300m from the works area were not assessed

Annex B4-g

Construction Noise Assessment

NSR: MTW-18-12 SKH Good Shepherd Primary School

No.	Activity Description	SWL dB(A)[2]	Distance m	Corr. for distance dB(A)[1][2]	Corr. for façade dB(A)
	Daytime Period				
	MTW Station Construction + EEP				
	MTW Stage 1 S1				
1	Works in S1	100	250	-56	3
2	Works in S1	97	250	-56	3
	MTW Stage 1 S2				
3	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	230	-55	3
4	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	230	-55	3
	MTW Stage 1 S4				
5	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	190	-54	3
6	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	190	-54	3
	MTW Stage 1 S6				
7	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	160	-52	3
8	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	160	-52	3
	MTW Stage 1 S8				
9	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	130	-50	3
10	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	130	-50	3
	MTW Stage 1 S10				
11	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	100	-48	3
12	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	100	-48	3
	MTW Stage 1 S12				
13	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	70	-45	3
14	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	70	-45	3
	MTW Stage 1 S14				
15	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	45	-41	3
16	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	45	-41	3
	MTW Stage 1 S16				
17	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	22	-35	3
18	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	106	22	-35	3
	MTW Stage 1 S18				
19	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	29	-37	3
20	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	106	29	-37	3
	MTW Stage 1 S20				
21	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	50	-42	3
22	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	50	-42	3
	MTW Stage 1 S21				
23	Works in S21	100	75	-45	3
24	Works in S21	97	75	-45	3
	MTW Stage 1 & 2 S22				
25	Entrance and Adits	93	195	-54	3
26	Entrance and Adits	98	195	-54	3
27	Entrance and Adits	103	195	-54	3
28	Entrance and Adits	103	195	-54	3
	MTW Stage 1 & 2 S24				
29	Entrance and Adits	96	35	-39	3
30	Entrance and Adits	98	35	-39	3
31	Entrance and Adits	103	35	-39	3
32	Entrance and Adits	103	35	-39	3
	MTW Stage 2 &3 S26				
33	Entrance and Adits	93	55	-43	3
34	Entrance and Adits	98	55	-43	3
35	Entrance and Adits	103	55	-43	3
36	Entrance and Adits	103	55	-43	3
37	Entrance and Adits	91	55	-43	3
	MTW Stage 2 & 3 S28				
38	Entrance and Adits	93	18	-33	3
39	Entrance and Adits	98	18	-33	3
40	Entrance and Adits	103	18	-33	3
41	Entrance and Adits	103	18	-33	3
42	Entrance and Adits	91	18	-33	3
43	Entrance and Adits	91	18	-33	3
	MTW Stage 2 S30				
44	Roof Slab East Side of Ma Tau Wai Road	100	21	-34	3
45	Roof Slab East Side of Ma Tau Wai Road	86	21	-34	3
46	Roof Slab East Side of Ma Tau Wai Road	103	21	-34	3
	MTW Stage 2 S32				
47	Roof Slab East Side of Ma Tau Wai Road	100	28	-37	3
48	Roof Slab East Side of Ma Tau Wai Road	86	28	-37	3
49	Roof Slab East Side of Ma Tau Wai Road	103	28	-37	3
	MTW Stage 2 S34				
50	Roof Slab East Side of Ma Tau Wai Road	100	110	-49	3
51	Roof Slab East Side of Ma Tau Wai Road	86	110	-49	3
52	Roof Slab East Side of Ma Tau Wai Road	103	110	-49	3
	MTW Stage 2 S36				
53	Roof Slab East Side of Ma Tau Wai Road	100	140	-51	3
54	Roof Slab East Side of Ma Tau Wai Road	86	140	-51	3
55	Roof Slab East Side of Ma Tau Wai Road	103	140	-51	3
	MTW Stage 2 S38				
56	Roof Slab East Side of Ma Tau Wai Road	100	175	-53	3
57	Roof Slab East Side of Ma Tau Wai Road	86	175	-53	3
58	Roof Slab East Side of Ma Tau Wai Road	103	175	-53	3
	MTW Stage 2 & 3 S40				
59	Roof Slab West Side of Ma Tau Wai Road	103	260	-56	3
60	Roof Slab West Side of Ma Tau Wai Road	103	260	-56	3
	MTW Stage 1 & 2 S42				
61	Roof Slab West Side of Ma Tau Wai Road	101	285	-57	3
62	Roof Slab West Side of Ma Tau Wai Road	106	285	-57	3
	MTW Stage 3 S50				
63	Top Down Construction	102	40	-40	3
64	Top Down Construction	99	40	-40	3
	MTW Stage 3 S52				
65	Top Down Construction	102	16	-32	3
66	Top Down Construction	99	16	-32	3
	MTW Stage 3 S54				
67	Top Down Construction	102	50	-42	3
68	Top Down Construction	99	50	-42	3
	MTW Stage 3 S56				
69	Top Down Construction	102	95	-48	3

Predicted Construction Noise Level (dB(A))

No.	2012												2013											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
1																						47		
23																						58		
33													53	53	53									
34														58	58	58	58	58	58	58	58			
35														63	63	63								
36																63	63	63	63	63	63			
37																						52	52	52
38																62	62	62						
39																	68	68	68	68	68	68	68	68
40																	73	73	73					
41																			73	73	73	73	73	73
42																61	61	61	61	61	61	61	61	61
44												69	69	69	69	69	69							
45																	55	55						
46																	72	72	72					
47																	66	66	66	66	66			
48																					52	52		
49																						69	69	69
50																				55	55	55	55	
51																						40	40	
52																							57	57
53																								52
54																38	38							
55																	55	55						
56												51	51	51										
57															36	36	36							
58															53	53	53	53	53					
59																	50	50	50					
60																		50	50	50				
61															47	47	47	47						
62																		52	52	52	52			

No.	2014												2015											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
2														44										
3				48	48	48	48																	
4														51	51									
5							50	50	50	50														
6															53	53								
7										51	51	51	51	51										
8																54	54							
9	53	53	53	53	53	53	53																	
10															56	56	56							
11										55	55	55	55											
12														58	58									
13		59	59	59	59																			
14														61	61									
15					62	62	62	62																
16										65	65													
17								72	72	72	72													
18												74	74											
19		69	69	69																				
20									72	72														
21							61	61	61															
22											64	64												
24														55										
25																				42	42			
26																					47	47	47	47
27																					52	52		
28																						52	52	52
29														60	60									
30															62	62	62							
31															67									
32																67	67	67						
37	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52
43	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
53	52	52	52																					
63												65	65	65	65	65	65	65	65	65	65	65	65	65
64												62	62	62	62	62	62	62	62	62	62	62	62	62
65												73	73	73	73	73	73	73	73	73	73	73	73	73
66												70	70	70	70	70	70	70	70	70	70	70	70	70
67												63	63	63	63	63	63	63	63	63	63	63	63	63
68												60	60	60	60	60	60	60	60	60	60	60	60	60
69												57	57	57	57	57	57	57	57	57	57	57	57	57

No.	2016												2017	2018	Max. CNL dB(A)
	1	2	3	4	5	6	7	8	9	10	11	12	1–12	1–12	
26	47														
28	52														
37	52	52	52	52	52	52	52								
43	61	61	61	61	61	61	61								
63	65														
64	62	62	62												
65	73														
66	70	70	70												
67	63														
68	60	60	60												
69	57														

Annex B4-g

Construction Noise Assessment

NSR: MTW-18-12 SKH Good Shepherd Primary School

No.	Activity Description	SWL dB(A)[2]	Distance m	Corr. for distance dB(A)[1][2]	Corr. for façade dB(A)	Max. CNL dB(A)
70	Top Down Construction	99	95	-48	3	
	MTW Stage 3 S58					
71	Top Down Construction	102	145	-51	3	
72	Top Down Construction	99	145	-51	3	
	MTW Stage 3 S60					
73	Top Down Construction	102	200	-54	3	
74	Top Down Construction	99	200	-54	3	
	MTW TKW Garden					
75	Bentonite Plant	102	n/a	--	3	
	MTW SSS					
76	Storage Area	102	n/a	--	3	
77	Storage Area	95	n/a	--	3	
	EKW Pier 15					
80	Pier Work	96	n/a	--	3	
81	Pier Work	104	n/a	--	3	
82	Pier Work	103	n/a	--	3	
83	Pier Work	100	n/a	--	3	
84	Pier Work	100	n/a	--	3	
	Worksite EEP					
85	Shaft	108	n/a	--	3	
	Predicted Noise Level during Daytime Period, dB(A)					78

Predicted Construction Noise Level (dB(A))

No.	Activity Description	2012												2013											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
70	Top Down Construction																								
	MTW Stage 3 S58																								
71	Top Down Construction																								
72	Top Down Construction																								
	MTW Stage 3 S60																								
73	Top Down Construction																								
74	Top Down Construction																								
	MTW TKW Garden																								
75	Bentonite Plant																								
	MTW SSS																								
76	Storage Area																								
77	Storage Area																								
	EKW Pier 15																								
80	Pier Work																								
81	Pier Work																								
82	Pier Work																								
83	Pier Work																								
84	Pier Work																								
	Worksite EEP																								
85	Shaft																								
	Predicted Noise Level during Daytime Period, dB(A)												69	69	70	70	72	78	77	78	75	75	76	76	76

No.	Activity Description	2014												2015											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
70	Top Down Construction												54	54	54	54	54	54	54	54	54	54	54	54	54
	MTW Stage 3 S58																								
71	Top Down Construction												54	54	54	54	54	54	54	54	54	54	54	54	54
72	Top Down Construction												51	51	51	51	51	51	51	51	51	51	51	51	51
	MTW Stage 3 S60																								
73	Top Down Construction												51	51	51	51	51	51	51	51	51	51	51	51	51
74	Top Down Construction												48	48	48	48	48	48	48	48	48	48	48	48	48
	MTW TKW Garden																								
75	Bentonite Plant																								
	MTW SSS																								
76	Storage Area																								
77	Storage Area																								
	EKW Pier 15																								
80	Pier Work																								
81	Pier Work																								
82	Pier Work																								
83	Pier Work																								
84	Pier Work																								
	Worksite EEP																								
85	Shaft																								
	Predicted Noise Level during Daytime Period, dB(A)	63	70	70	70	66	65	67	73	75	75	73	78	78	76	77	77	77	76	76	76	76	76	76	76

No.	Activity Description	2016											
		1	2	3	4	5	6	7	8	9	10	11	12
70	Top Down Construction	54	54	54									
	MTW Stage 3 S58												
71	Top Down Construction	54											
72	Top Down Construction	51	51	51									
	MTW Stage 3 S60												
73	Top Down Construction	51											
74	Top Down Construction	48	48	48									
	MTW TKW Garden												
75	Bentonite Plant												
	MTW SSS												
76	Storage Area												
77	Storage Area												
	EKW Pier 15												
80	Pier Work												
81	Pier Work												
82	Pier Work												
83	Pier Work												
84	Pier Work												
	Worksite EEP												
85	Shaft												
	Predicted Noise Level during Daytime Period, dB(A)	76	71	71	62	62	62	62					

No.	Activity Description	2017												2018											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
70	Top Down Construction																								
	MTW Stage 3 S58																								
71	Top Down Construction																								
72	Top Down Construction																								
	MTW Stage 3 S60																								
73	Top Down Construction																								
74	Top Down Construction																								
	MTW TKW Garden																								
75	Bentonite Plant																								
	MTW SSS																								
76	Storage Area																								
77	Storage Area																								
	EKW Pier 15																								
80	Pier Work																								
81	Pier Work																								
82	Pier Work																								
83	Pier Work																								
84	Pier Work																								
	Worksite EEP																								
85	Shaft																								
	Predicted Noise Level during Daytime Period, dB(A)																								

Note:

[1] Distance Correction for PMEs = $10*\log(2*PI*r^2)$

[2] The figures are rounded-up to a whole number.

[3] Distance more than 300m from the works area were not assessed

Annex B4-h

Construction Noise Assessment

NSR: MTW-18-2 No. 2 Kowloon City Road

No.	Activity Description	SWL dB(A)[2]	Distance m	Corr. for distance dB(A)[1][2]	Corr. for façade dB(A)
	Daytime Period				
	MTW Station Construction + EEP				
	MTW Stage 1 S1				
1	Works in S1	100	35	-39	3
2	Works in S1	97	35	-39	3
	MTW Stage 1 S2				
3	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	40	-40	3
4	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	40	-40	3
	MTW Stage 1 S4				
5	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	60	-44	3
6	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	60	-44	3
	MTW Stage 1 S6				
7	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	85	-47	3
8	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	85	-47	3
	MTW Stage 1 S8				
9	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	115	-49	3
10	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	115	-49	3
	MTW Stage 1 S10				
11	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	145	-51	3
12	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	145	-51	3
	MTW Stage 1 S12				
13	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	170	-53	3
14	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	170	-53	3
	MTW Stage 1 S14				
15	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	200	-54	3
16	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	200	-54	3
	MTW Stage 1 S16				
17	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	235	-55	3
18	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	106	235	-55	3
	MTW Stage 1 S18				
19	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	270	-57	3
20	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	106	270	-57	3
	MTW Stage 1 S20				
21	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	300	-58	3
22	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	300	-58	3
	MTW Stage 1 S21				
23	Works in S21	100	n/a	--	3
24	Works in S21	97	n/a	--	3
	MTW Stage 1 & 2 S22				
25	Entrance and Adits	93	75	-45	3
26	Entrance and Adits	98	75	-45	3
27	Entrance and Adits	103	75	-45	3
28	Entrance and Adits	103	75	-45	3
	MTW Stage 1 & 2 S24				
29	Entrance and Adits	96	240	-56	3
30	Entrance and Adits	98	240	-56	3
31	Entrance and Adits	103	240	-56	3
32	Entrance and Adits	103	240	-56	3
	MTW Stage 2 &3 S26				
33	Entrance and Adits	93	175	-53	3
34	Entrance and Adits	98	175	-53	3
35	Entrance and Adits	103	175	-53	3
36	Entrance and Adits	103	175	-53	3
37	Entrance and Adits	91	175	-53	3
	MTW Stage 2 & 3 S28				
38	Entrance and Adits	93	220	-55	3
39	Entrance and Adits	98	220	-55	3
40	Entrance and Adits	103	220	-55	3
41	Entrance and Adits	103	220	-55	3
42	Entrance and Adits	91	220	-55	3
43	Entrance and Adits	91	220	-55	3
	MTW Stage 2 S30				
44	Roof Slab East Side of Ma Tau Wai Road	100	270	-57	3
45	Roof Slab East Side of Ma Tau Wai Road	86	270	-57	3
46	Roof Slab East Side of Ma Tau Wai Road	103	270	-57	3
	MTW Stage 2 S32				
47	Roof Slab East Side of Ma Tau Wai Road	100	190	-54	3
48	Roof Slab East Side of Ma Tau Wai Road	86	190	-54	3
49	Roof Slab East Side of Ma Tau Wai Road	103	190	-54	3
	MTW Stage 2 S34				
50	Roof Slab East Side of Ma Tau Wai Road	100	130	-50	3
51	Roof Slab East Side of Ma Tau Wai Road	86	130	-50	3
52	Roof Slab East Side of Ma Tau Wai Road	103	130	-50	3
	MTW Stage 2 S36				
53	Roof Slab East Side of Ma Tau Wai Road	100	105	-48	3
54	Roof Slab East Side of Ma Tau Wai Road	86	105	-48	3
55	Roof Slab East Side of Ma Tau Wai Road	103	105	-48	3
	MTW Stage 2 S38				
56	Roof Slab East Side of Ma Tau Wai Road	100	55	-43	3
57	Roof Slab East Side of Ma Tau Wai Road	86	55	-43	3
58	Roof Slab East Side of Ma Tau Wai Road	103	55	-43	3
	MTW Stage 2 & 3 S40				
59	Roof Slab West Side of Ma Tau Wai Road	103	11	-29	3
60	Roof Slab West Side of Ma Tau Wai Road	103	11	-29	3
	MTW Stage 1 & 2 S42				
61	Roof Slab West Side of Ma Tau Wai Road	101	30	-38	3
62	Roof Slab West Side of Ma Tau Wai Road	106	30	-38	3
	MTW Stage 3 S50				
63	Top Down Construction	102	285	-57	3
64	Top Down Construction	99	285	-57	3
	MTW Stage 3 S52				
65	Top Down Construction	102	235	-55	3
66	Top Down Construction	99	235	-55	3
	MTW Stage 3 S54				
67	Top Down Construction	102	185	-53	3
68	Top Down Construction	99	185	-53	3
	MTW Stage 3 S56				
69	Top Down Construction	102	135	-51	3

Predicted Construction Noise Level (dB(A))

No.	2012												2013											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
1																						64		
33													43	43	43									
34														48	48	48	48	48	48	48	48			
35														53	53	53								
36																53	53	53	53	53	53			
37																						41	41	41
38																41	41	41						
39																	46	46	46	46	46	46	46	46
40																	51	51	51					
41																			51	51	51	51	51	51
42																39	39	39	39	39	39	39	39	39
44												47	47	47	47	47	47							
45																	32	32						
46																	49	49	49					
47																	50	50	50	50	50			
48																					35	35		
49																						52	52	52
50																				53	53	53	53	
51																						39	39	
52																							56	56
53																								55
54																41	41							
55																	58	58						
56												61	61	61										
57															46	46	46							
58															63	63	63	63	63					
59																	78	78	78					
60																		77	77	77				
61															67	67	67	67						
62																		72	72	72	72			

No.	2014											
	1	2	3	4	5	6	7	8	9	10	11	12
3				63	63	63	63					
5							60	60	60	60		
7										57	57	57
9	54	54	54	54	54	54	54					
11										52	52	52
13		51	51	51	51							
15					49	49	49	49				
16										52	52	
17								51	51	51	51	
18												54
19		50	50	50								
20									53	53		
21							46	46	46			
22											49	49
37	41	41	41	41	41	41	41	41	41	41	41	41
43	40	40	40	40	40	40	40	40	40	40	40	40
53	55	55	55									
63												48
64												45
65												49
66												46
67												51
68												48
69												54

No.	2015											
	1	2	3	4	5	6	7	8	9	10	11	12
2		61										
4		66	66									
6			63	63								
7	57	57										
8				60	60							
10			57	57	57							
11	52											
12		55	55									
14		54	54									
18	54											
25								50	50			
26									56	56	56	56
27									60	60		
28										60	60	60
29		43	43									
30			45	45	45							
31			50									
32				50	50	50						
37	41	41	41	41	41	41	41	41	41	41	41	41
43	40	40	40	40	40	40	40	40	40	40	40	40
63	48	48	48	48	48	48	48	48	48	48	48	48
64	45	45	45	45	45	45	45	45	45	45	45	45
65	49	49	49	49	49	49	49	49	49	49	49	49
66	46	46	46	46	46	46	46	46	46	46	46	46
67	51	51	51	51	51	51	51	51	51	51	51	51
68	48	48	48	48	48	48	48	48	48	48	48	48
69	54	54	54	54	54	54	54	54	54	54	54	54

No.	2016												2017												2018												Max. CNL
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	dB(A)
26	56																																				
28	60																																				
37	41	41	41	41	41	41	41																														
43	40	40	40	40	40	40	40																														
63	48																																				
64	45	45	45																																		
65	49																																				
66	46	46	46																																		
67	51																																				
68	48	48	48																																		
69	54																																				

Annex B4-h

Construction Noise Assessment

NSR: MTW-18-2 No. 2 Kowloon City Road

No.	Activity Description	SWL dB(A)[2]	Distance m	Corr. for distance dB(A)[1][2]	Corr. for façade dB(A)	Max. CNL dB(A)
70	Top Down Construction	99	135	-51	3	
	MTW Stage 3 S58					
71	Top Down Construction	102	95	-48	3	
72	Top Down Construction	99	95	-48	3	
	MTW Stage 3 S60					
73	Top Down Construction	102	45	-41	3	
74	Top Down Construction	99	45	-41	3	
	MTW TKW Garden					
75	Bentonite Plant	102	45	-41	3	
	MTW SSS					
76	Storage Area	102	230	-55	3	
77	Storage Area	95	230	-55	3	
	EKW Pier 15					
80	Pier Work	96	80	-46	3	
81	Pier Work	104	80	-46	3	
82	Pier Work	103	80	-46	3	
83	Pier Work	100	80	-46	3	
84	Pier Work	100	80	-46	3	
	Worksite EEP					
85	Shaft	108	n/a	--	3	
	Predicted Noise Level during Daytime Period, dB(A)					81

Predicted Construction Noise Level (dB(A)) — 2012

No.	Activity Description	1	2	3	4	5	6	7	8	9	10	11	12
70	Top Down Construction												
	MTW Stage 3 S58												
71	Top Down Construction												
72	Top Down Construction												
	MTW Stage 3 S60												
73	Top Down Construction												
74	Top Down Construction												
	MTW TKW Garden												
75	Bentonite Plant												64
	MTW SSS												
76	Storage Area											49	49
77	Storage Area												
	EKW Pier 15												
80	Pier Work												
81	Pier Work												
82	Pier Work												
83	Pier Work												
84	Pier Work												
	Worksite EEP												
85	Shaft												
	Predicted Noise Level during Daytime Period, dB(A)											49	66

2013

No.	Activity Description	1	2	3	4	5	6	7	8	9	10	11	12
70	Top Down Construction												
	MTW Stage 3 S58												
71	Top Down Construction												
72	Top Down Construction												
	MTW Stage 3 S60												
73	Top Down Construction												
74	Top Down Construction												
	MTW TKW Garden												
75	Bentonite Plant	64	64	64	64	64	64	64	64	64	64	64	64
	MTW SSS												
76	Storage Area	49	49										
77	Storage Area			43	43	43	43	43	43	43	43	43	43
	EKW Pier 15												
80	Pier Work												
81	Pier Work												61
82	Pier Work												
83	Pier Work												
84	Pier Work												
	Worksite EEP												
85	Shaft												
	Predicted Noise Level during Daytime Period, dB(A)	66	66	70	70	78	81	81	78	72	68	65	67

2014

No.	Activity Description	1	2	3	4	5	6	7	8	9	10	11	12
70	Top Down Construction												51
	MTW Stage 3 S58												
71	Top Down Construction												57
72	Top Down Construction												54
	MTW Stage 3 S60												
73	Top Down Construction												64
74	Top Down Construction												61
	MTW TKW Garden												
75	Bentonite Plant	64	64	64	64	64	64	64	64	64	64	64	64
	MTW SSS												
76	Storage Area												
77	Storage Area	43	43	43	43	43	43	43	43	43	43	43	43
	EKW Pier 15												
80	Pier Work	52	52										
81	Pier Work	61	61										
82	Pier Work			60									
83	Pier Work				57	57							
84	Pier Work							57	57	57	57	57	57
	Worksite EEP												
85	Shaft												
	Predicted Noise Level during Daytime Period, dB(A)	67	67	66	67	67	67	68	66	66	67	66	70

2015

No.	Activity Description	1	2	3	4	5	6	7	8	9	10	11	12
70	Top Down Construction	51	51	51	51	51	51	51	51	51	51	51	51
	MTW Stage 3 S58												
71	Top Down Construction	57	57	57	57	57	57	57	57	57	57	57	57
72	Top Down Construction	54	54	54	54	54	54	54	54	54	54	54	54
	MTW Stage 3 S60												
73	Top Down Construction	64	64	64	64	64	64	64	64	64	64	64	64
74	Top Down Construction	61	61	61	61	61	61	61	61	61	61	61	61
	MTW TKW Garden												
75	Bentonite Plant	64	64	64	64	64	64	64	64				
	MTW SSS												
76	Storage Area												
77	Storage Area	43	43	43	43	43	43	43	43	43	43	43	43
	EKW Pier 15												
80	Pier Work												
81	Pier Work												
82	Pier Work												
83	Pier Work												
84	Pier Work	57	57	57									
	Worksite EEP												
85	Shaft												
	Predicted Noise Level during Daytime Period, dB(A)	69	72	72	70	70	69	69	69	68	69	68	68

2016

No.	Activity Description	1	2	3	4	5	6	7	8	9	10	11	12
70	Top Down Construction	51	51	51									
	MTW Stage 3 S58												
71	Top Down Construction	57											
72	Top Down Construction	54	54	54									
	MTW Stage 3 S60												
73	Top Down Construction	64											
74	Top Down Construction	61	61	61									
	MTW TKW Garden												
75	Bentonite Plant												
	MTW SSS												
76	Storage Area												
77	Storage Area	43	43	43	43	43	43	43	43	43	43	43	43
	EKW Pier 15												
80	Pier Work												
81	Pier Work												
82	Pier Work												
83	Pier Work												
84	Pier Work												
	Worksite EEP												
85	Shaft												
	Predicted Noise Level during Daytime Period, dB(A)	68	62	62	46	46	46	46	43	43	43	43	43

2017

No.	Activity Description	1	2	3	4	5	6	7	8	9	10	11	12
70	Top Down Construction												
	MTW Stage 3 S58												
71	Top Down Construction												
72	Top Down Construction												
	MTW Stage 3 S60												
73	Top Down Construction												
74	Top Down Construction												
	MTW TKW Garden												
75	Bentonite Plant												
	MTW SSS												
76	Storage Area												
77	Storage Area	43	43	43	43	43	43	43	43	43	43	43	43
	EKW Pier 15												
80	Pier Work												
81	Pier Work												
82	Pier Work												
83	Pier Work												
84	Pier Work												
	Worksite EEP												
85	Shaft												
	Predicted Noise Level during Daytime Period, dB(A)	43	43	43	43	43	43	43	43	43	43	43	43

2018

No.	Activity Description	1	2	3	4	5	6	7	8	9	10	11	12
70	Top Down Construction												
	MTW Stage 3 S58												
71	Top Down Construction												
72	Top Down Construction												
	MTW Stage 3 S60												
73	Top Down Construction												
74	Top Down Construction												
	MTW TKW Garden												
75	Bentonite Plant												
	MTW SSS												
76	Storage Area												
77	Storage Area	43	43	43	43	43							
	EKW Pier 15												
80	Pier Work												
81	Pier Work												
82	Pier Work												
83	Pier Work												
84	Pier Work												
	Worksite EEP												
85	Shaft												
	Predicted Noise Level during Daytime Period, dB(A)	43	43	43	43	43							

Note:

[1] Distance Correction for PMEs = $10*\log(2*PI*r^2)$

[2] The figures are rounded-up to a whole number.

[3] Distance more than 300m from the works area were not assessed

Annex B4-i

Construction Noise Assessment

NSR: HOM-2-1-A Faerie Court (East Facade)

No.	Activity Description	SWL dB(A)[2]	Distance m	Corr. for distance dB(A)[1][2]	Corr. for façade dB(A)	Predicted Construction Noise Level (dB(A))																																																																																Max. CNL dB(A)
						2012												2013												2014												2015												2016												2017												2018												
						1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	
	__Daytime Period__																																																																																							
	MTW Station Construction + EEP																																																																																								
	MTW Stage 1 S1																																																																																							
1	Works in S1	100	195	-54	3																						49																																																																
2	Works in S1	97	195	-54	3																																						46																																																					
	MTW Stage 1 S2																																																																																							
3	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	205	-54	3																												49	49	49	49																																																													
4	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	205	-54	3																																						52	52																																																		
	MTW Stage 1 S4																																																																																							
5	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	235	-55	3																																48	48	48	48																																																						
6	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	235	-55	3																																							51	51																																																	
	MTW Stage 1 S6																																																																																								
7	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	270	-57	3																																				47	47	47	47	47																																																	
8	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	270	-57	3																																								50	50																																															
	MTW Stage 1 S8																																																																																							
9	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	n/a	--	3																																																																																				
10	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	n/a	--	3																																																																																				
	MTW Stage 1 S10																																																																																								
11	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	n/a	--	3																																																																																					
12	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	n/a	--	3																																																																																				
	MTW Stage 1 S12																																																																																								
13	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	n/a	--	3																																																																																					
14	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	n/a	--	3																																																																																				
	MTW Stage 1 S14																																																																																								
15	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	n/a	--	3																																																																																					
16	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	n/a	--	3																																																																																					
	MTW Stage 1 S16																																																																																							
17	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	n/a	--	3																																																																																					
18	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	106	n/a	--	3																																																																																				
	MTW Stage 1 S18																																																																																								
19	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	n/a	--	3																																																																																					
20	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	106	n/a	--	3																																																																																				
	MTW Stage 1 S20																																																																																								
21	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	100	n/a	--	3																																																																																					
22	Diaphragm Wall, Cross Wall & Roof Slab West Side of Ma Tau Wai Road	103	n/a	--	3																																																																																				
	MTW Stage 1 S21																																																																																								
23	Works in S21	100	n/a	--	3																																																																																					
24	Works in S21	97	n/a	--	3																																																																																					
	MTW Stage 1 & 2 S22																																																																																								
25	Entrance and Adits	93	245	-56	3																																												40	40																																													
26	Entrance and Adits	98	245	-56	3																																													45	45	45	45	45																																										
27	Entrance and Adits	103	245	-56	3																																													50	50																																										
28	Entrance and Adits	103	245	-56	3																																														50	50	50	50																																										
	MTW Stage 1 & 2 S24																																																																																							
29	Entrance and Adits	96	n/a	--	3																																																																																					
30	Entrance and Adits	98	n/a	--	3																																																																																					
31	Entrance and Adits	103	n/a	--	3																																																																																					
32	Entrance and Adits	103	n/a	--	3																																																																																					
	MTW Stage 2 &3 S26																																																																																							
33	Entrance and Adits	93	n/a	--	3																																																																																					
34	Entrance and Adits	98	n/a	--	3																																																																																					
35	Entrance and Adits	103	n/a	--	3																																																																																					
36	Entrance and Adits	103	n/a	--	3																																																																																					
37	Entrance and Adits	91	n/a	--	3																																																																																					
	MTW Stage 2 & 3 S28																																																																																							
38	Entrance and Adits	93	n/a	--	3																																																																																					
39	Entrance and Adits	98	n/a	--	3																																																																																					
40	Entrance and Adits	103	n/a	--	3																																																																																					
41	Entrance and Adits	103	n/a	--	3																																																																																					
42	Entrance and Adits	91	n/a	--	3																																																																																					
43	Entrance and Adits	91	n/a	--	3																																																																																					
	MTW Stage 2 S30																																																																																								
44	Roof Slab East Side of Ma Tau Wai Road	100	n/a	--	3																																																																																					
45	Roof Slab East Side of Ma Tau Wai Road	86	n/a	--	3																																																																																					
46	Roof Slab East Side of Ma Tau Wai Road	103	n/a	--	3																																																																																					
	MTW Stage 2 S32																																																																																							
47	Roof Slab East Side of Ma Tau Wai Road	100	n/a	--	3																																																																																					
48	Roof Slab East Side of Ma Tau Wai Road	86	n/a	--	3																																																																																						
49	Roof Slab East Side of Ma Tau Wai Road	103	n/a	--	3																																																																																						
	MTW Stage 2 S34																																																																																							
50	Roof Slab East Side of Ma Tau Wai Road	100	n/a	--	3																																																																																					
51	Roof Slab East Side of Ma Tau Wai Road	86	n/a	--	3																																																																																					
52	Roof Slab East Side of Ma Tau Wai Road	103	n/a	--	3																																																																																					
	MTW Stage 2 S36																																																																																							
53	Roof Slab East Side of Ma Tau Wai Road	100	n/a	--	3																																																																																					
54	Roof Slab East Side of Ma Tau Wai Road	86	n/a	--	3																																																																																						
55	Roof Slab East Side of Ma Tau Wai Road	103	n/a	--	3																																																																																					
	MTW Stage 2 S38																																																																																							
56	Roof Slab East Side of Ma Tau Wai Road	100	245	-56	3												48	48	48																																																																						
57	Roof Slab East Side of Ma Tau Wai Road	86	245	-56	3															33	33	33																																																																			
58	Roof Slab East Side of Ma Tau Wai Road	103	245	-56	3															50	50	50	50	50																																																																
	MTW Stage 2 & 3 S40																																																																																							
59	Roof Slab West Side of Ma Tau Wai Road	103	195	-54	3																	53	53	53																																																																		
60	Roof Slab West Side of Ma Tau Wai Road	103	195	-54	3																		52	52	52																																																																
	MTW Stage 1 & 2 S42																																																																																							
61	Roof Slab West Side of Ma Tau Wai Road	101	170	-53	3															52	52	52	52																																																																		
62	Roof Slab West Side of Ma Tau Wai Road	106	170	-53	3																		56	56	56	56																																																												
	MTW Stage 3 S50																																																																																								
63	Top Down Construction	102	n/a	--	3																																																																																					
64	Top Down Construction	99	n/a	--	3																																																																																					
	MTW Stage 3 S52																																																																																							
65	Top Down Construction	102	n/a	--	3																																																																																					
66	Top Down Construction	99	n/a	--	3																																																																																					
	MTW Stage 3 S54																																																																																							
67	Top Down Construction	102	n/a	--	3																																																																																					
68	Top Down Construction	99	n/a	--	3																																																																																					
	MTW Stage 3 S56																																																																																							
69	Top Down Construction	102	n/a	--	3																																																																																					

Annex B4-i

Construction Noise Assessment

NSR: HOM-2-1-A Faerie Court (East Facade)

No.	Activity Description	SWL dB(A)[2]	Distance m	Corr. for distance dB(A)[1][2]	Corr. for façade dB(A)	Max. CNL dB(A)
70	Top Down Construction	99	n/a	--	3	
	MTW Stage 3 S58					
71	Top Down Construction	102	275	-57	3	
72	Top Down Construction	99	275	-57	3	
	MTW Stage 3 S60					
73	Top Down Construction	102	220	-55	3	
74	Top Down Construction	99	220	-55	3	
	MTW TKW Garden					
75	Bentonite Plant	102	135	-51	3	
	MTW SSS					
76	Storage Area	102	20	-34	3	
77	Storage Area	95	20	-34	3	
	EKW Pier 15					
80	Pier Work	96	110	-49	3	
81	Pier Work	104	110	-49	3	
82	Pier Work	103	110	-49	3	
83	Pier Work	100	110	-49	3	
84	Pier Work	100	110	-49	3	
	Worksite EEP					
85	Shaft	108	n/a	--	3	
	Predicted Noise Level during Daytime Period, dB(A)					71

Predicted Construction Noise Level (dB(A)) — 2012

No.	1	2	3	4	5	6	7	8	9	10	11	12
70												
71												
72												
73												
74												
75												54
76											71	71
77												
80												
81												
82												
83												
84												
85												
Predicted Noise Level during Daytime Period, dB(A)											71	71

Predicted Construction Noise Level (dB(A)) — 2013

No.	1	2	3	4	5	6	7	8	9	10	11	12
70												
71												
72												
73												
74												
75	54	54	54	54	54	54	54	54	54	54	54	54
76	71	71										
77			64	64	64	64	64	64	64	64	64	64
80												
81												59
82												
83												
84												
85												
Predicted Noise Level during Daytime Period, dB(A)	71	71	65	65	65	66	66	65	65	65	65	66

Predicted Construction Noise Level (dB(A)) — 2014

No.	1	2	3	4	5	6	7	8	9	10	11	12
70												
71												48
72												45
73												50
74												47
75	54	54	54	54	54	54	54	54	54	54	54	54
76												
77	64	64	64	64	64	64	64	64	64	64	64	64
80	50	50										
81	59	59										
82			57									
83				54	54							
84							54	54	54	54	54	54
85												
Predicted Noise Level during Daytime Period, dB(A)	66	66	65	65	65	65	65	65	65	65	65	65

Predicted Construction Noise Level (dB(A)) — 2015

No.	1	2	3	4	5	6	7	8	9	10	11	12
70												
71	48	48	48	48	48	48	48	48	48	48	48	48
72	45	45	45	45	45	45	45	45	45	45	45	45
73	50	50	50	50	50	50	50	50	50	50	50	50
74	47	47	47	47	47	47	47	47	47	47	47	47
75	54	54	54	54	54	54	54	54				
76												
77	64	64	64	64	64	64	64	64	64	64	64	64
80												
81												
82												
83												
84	54	54	54									
85												
Predicted Noise Level during Daytime Period, dB(A)	65	66	66	65	65	65	65	65	65	65	65	65

Predicted Construction Noise Level (dB(A)) — 2016

No.	1	2	3	4	5	6	7	8	9	10	11	12
70												
71	48											
72	45	45	45									
73	50											
74	47	47	47									
75												
76												
77	64	64	64	64	64	64	64	64	64	64	64	64
80												
81												
82												
83												
84												
85												
Predicted Noise Level during Daytime Period, dB(A)	65	64	64	64	64	64	64	64	64	64	64	64

Predicted Construction Noise Level (dB(A)) — 2017

No.	1	2	3	4	5	6	7	8	9	10	11	12
70												
71												
72												
73												
74												
75												
76												
77	64	64	64	64	64	64	64	64	64	64	64	64
80												
81												
82												
83												
84												
85												
Predicted Noise Level during Daytime Period, dB(A)	64	64	64	64	64	64	64	64	64	64	64	64

Predicted Construction Noise Level (dB(A)) — 2018

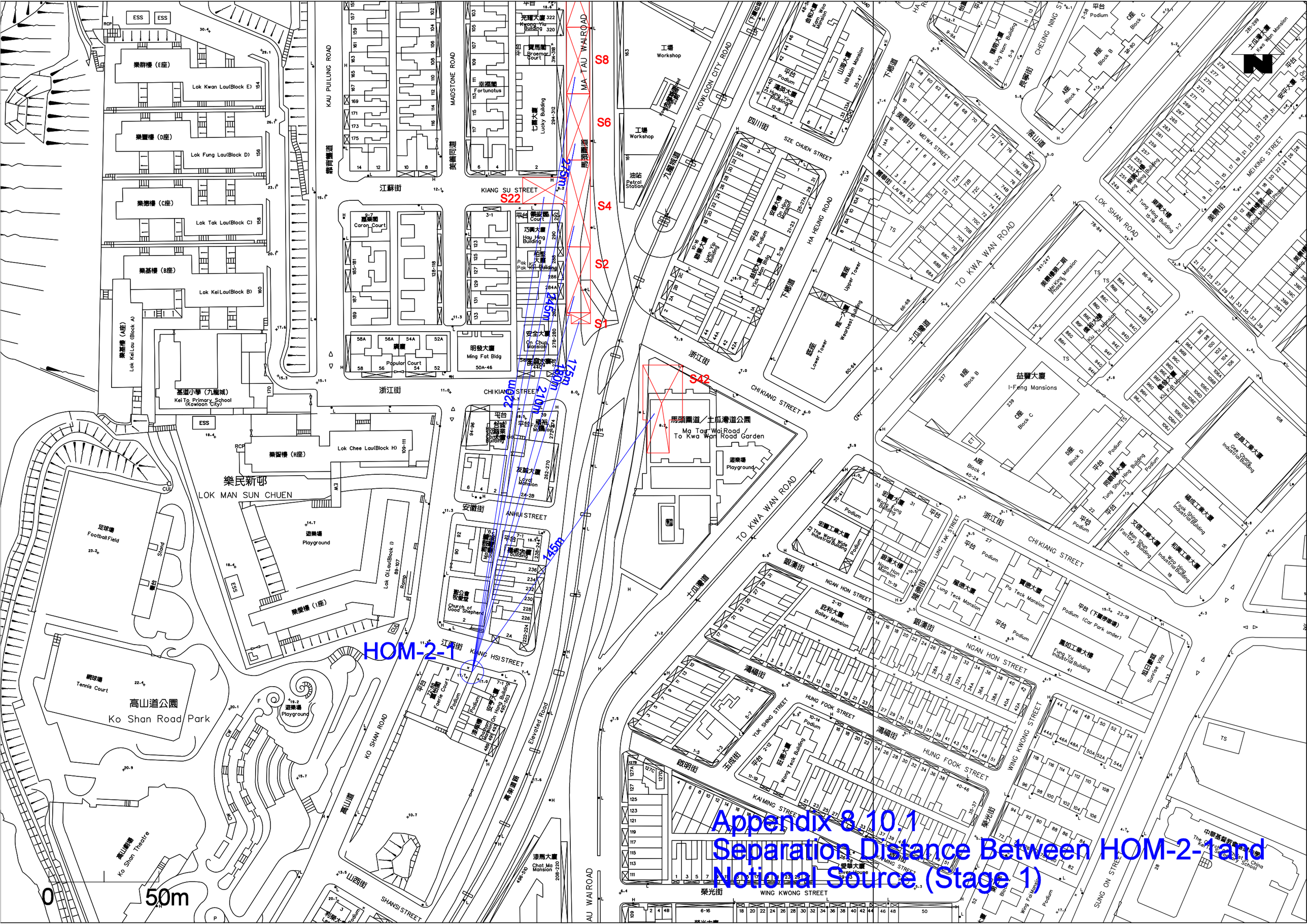
No.	1	2	3	4	5	6	7	8	9	10	11	12
70												
71												
72												
73												
74												
75												
76												
77	64	64	64	64	64							
80												
81												
82												
83												
84												
85												
Predicted Noise Level during Daytime Period, dB(A)	64	64	64	64	64							

Note:

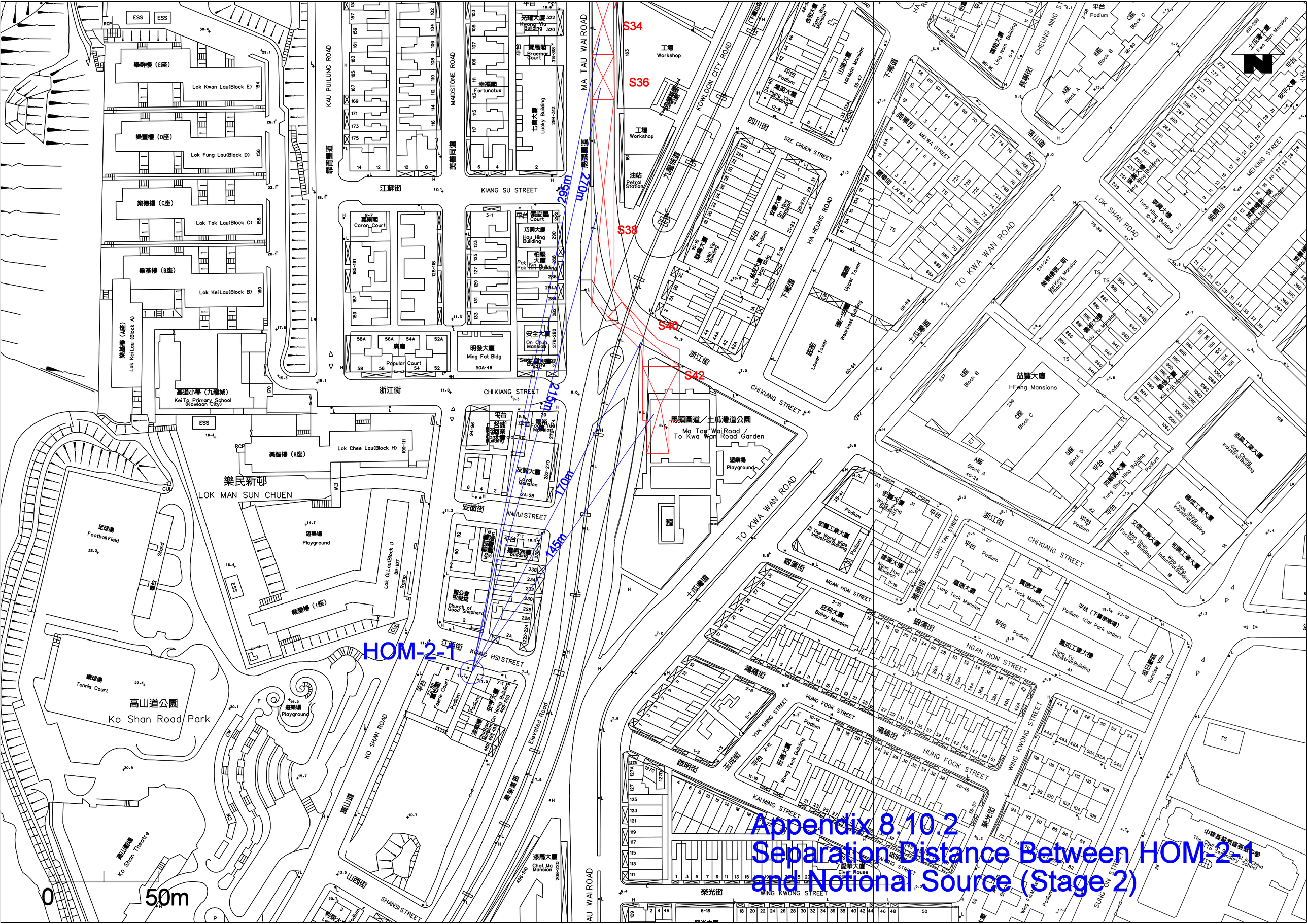
[1] Distance Correction for PMEs = $10*\log(2*PI*r^2)$

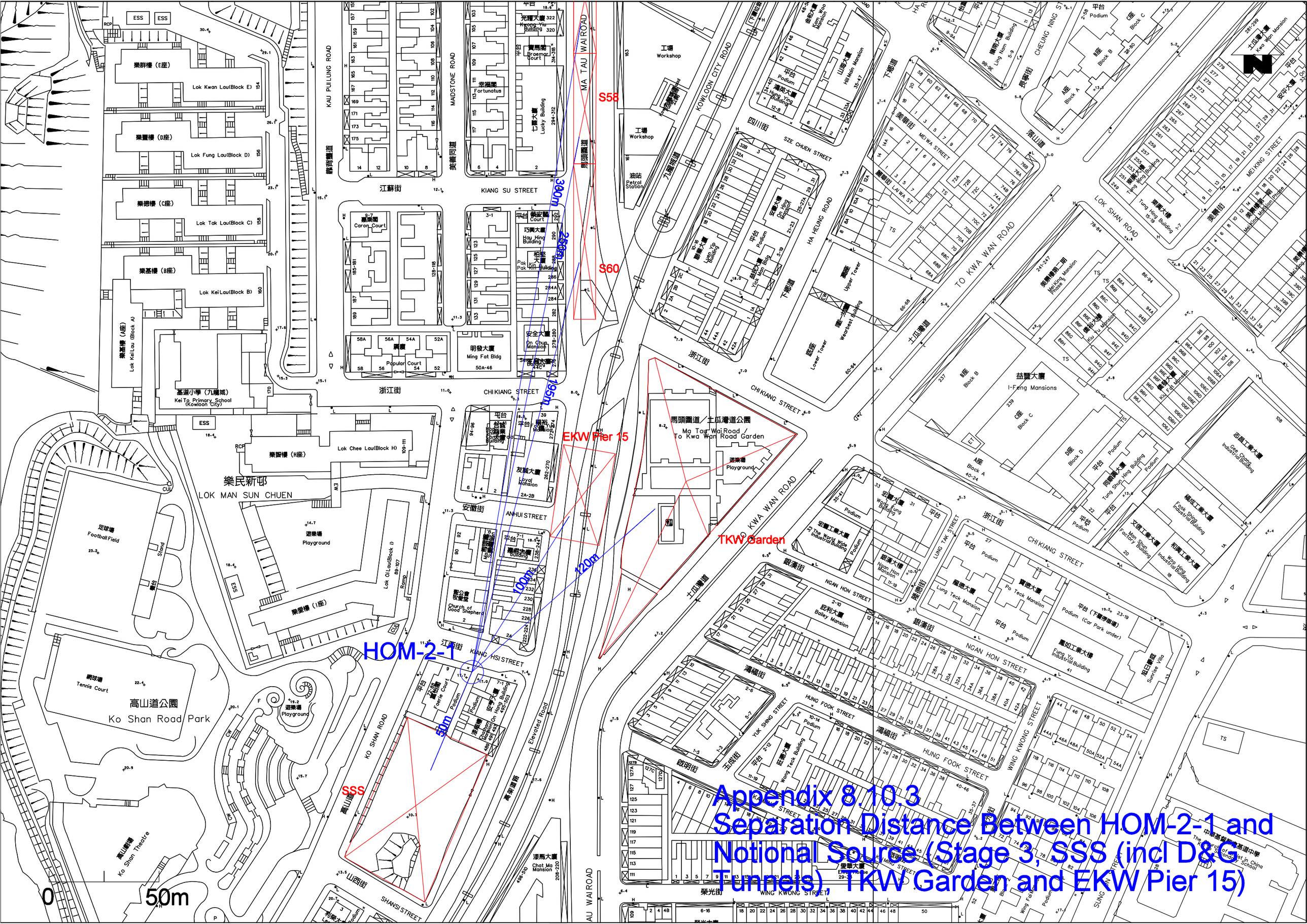
[2] The figures are rounded-up to a whole number.

[3] Distance more than 300m from the works area were not assessed

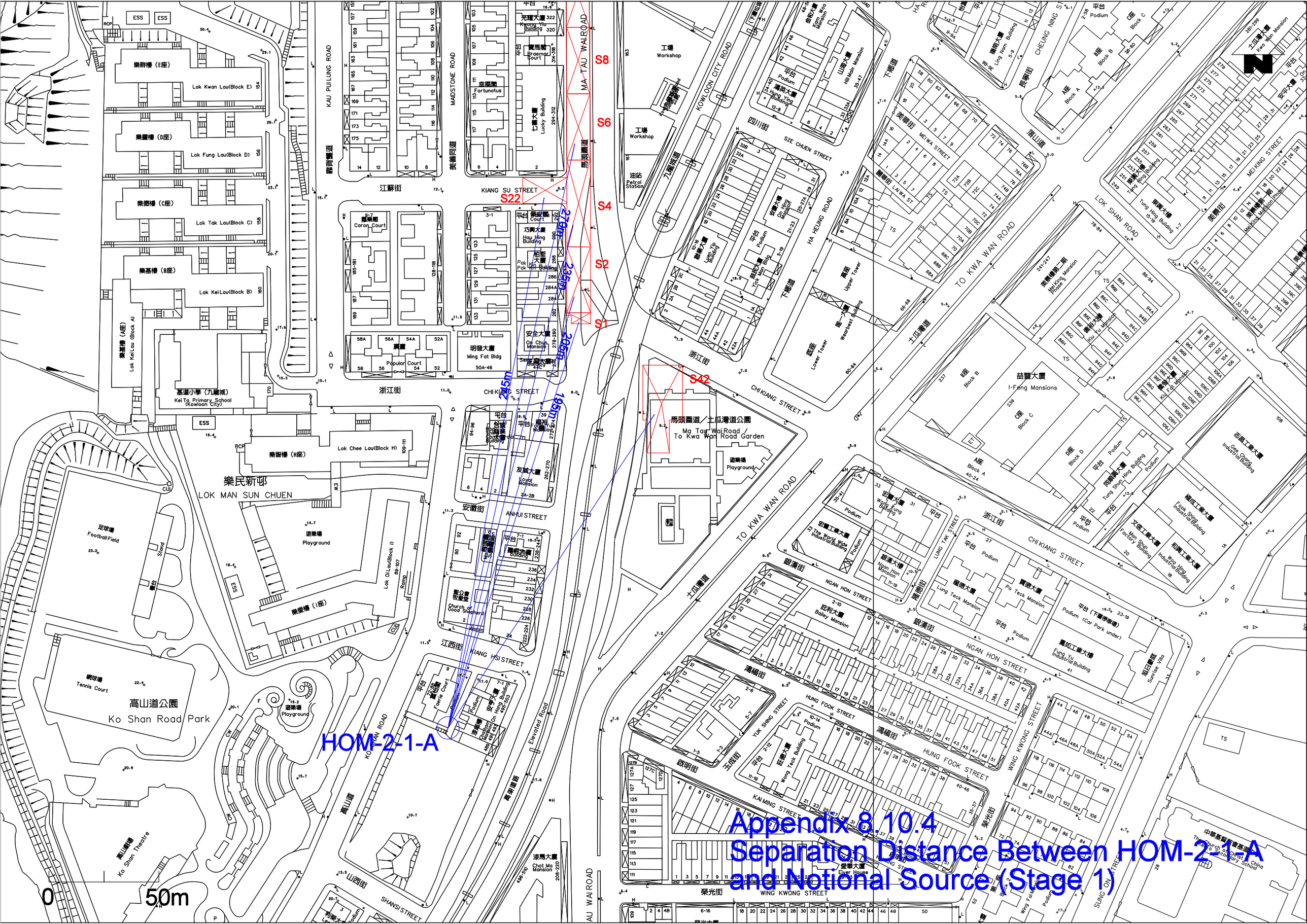


Appendix 8.10.1
Separation Distance Between HOM-2-1and Notional Source (Stage 1)

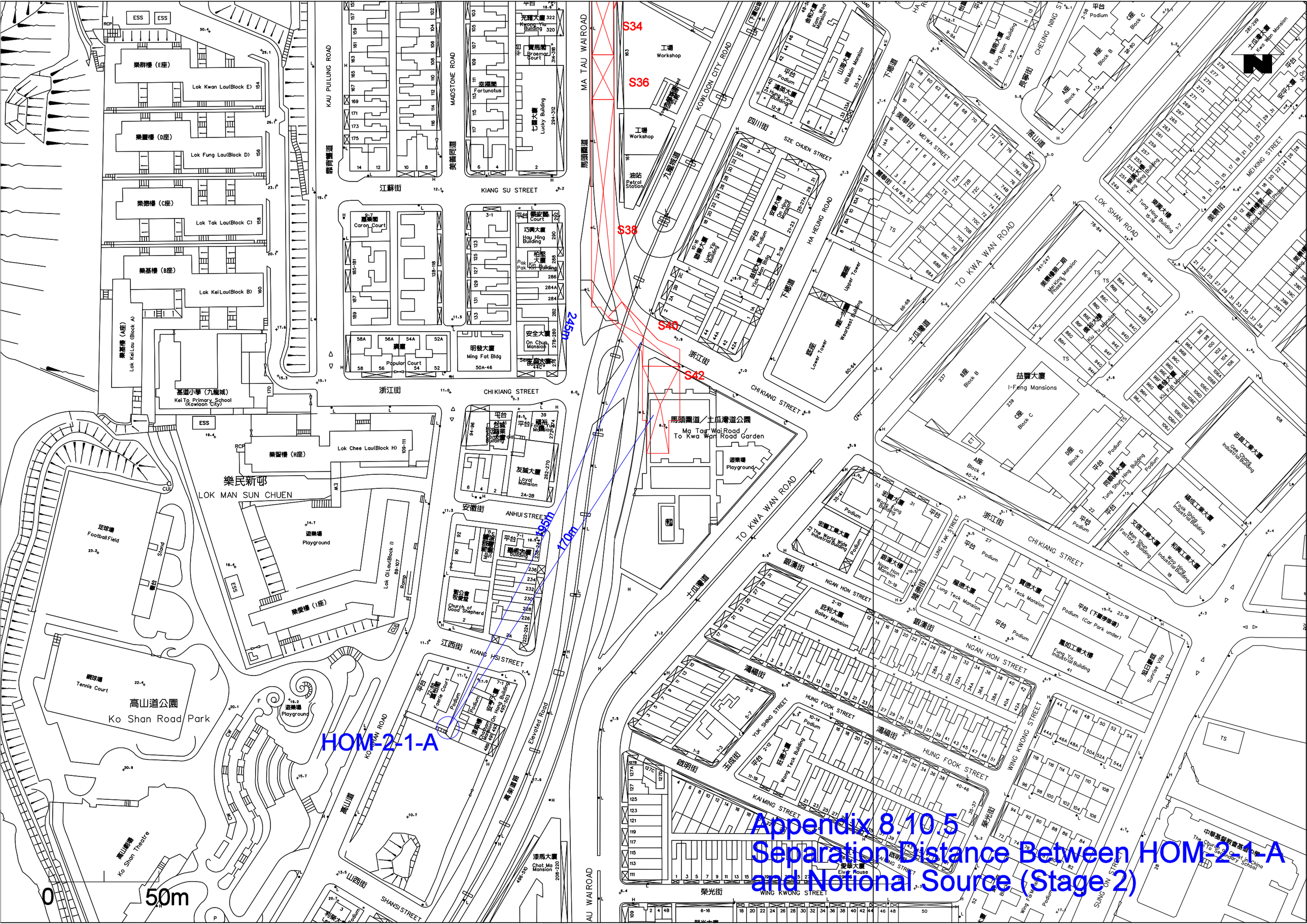

S34
S36
S38
S40
S42
HOM-2-1
295m
270m
215m
170m
145m
0
50m
樂群樓（E座）
Lok Kwan Lau(Block E)
樂豐樓（D座）
Lok Fung Lau(Block D)
樂德樓（C座）
Lok Tak Lau(Block C)
樂基樓（B座）
Lok Kei Lau(Block B)
樂基樓（A座）
Lok Kei Lau (Block A)
基道小學（九龍城）
Kei To Primary School (Kowloon City)
樂智樓（H座）
Lok Chee Lau(Block H)
樂民新邨
LOK MAN SUN CHUEN
樂聖樓（I座）
Lok Oi Lau(Block I)
足球場
Football Field
網球場
Tennis Court
高山道公園
Ko Shan Road Park
高山劇場
Ko Shan Theatre
遊樂場
Playground
KAU PUI LUNG ROAD
MAIDSTONE ROAD
美鑽同道
靠背壟道
江蘇街
KIANG SU STREET
浙江街
CHI KIANG STREET
安徽街
ANHUI STREET
江西街
KIANG HSI STREET
KO SHAN ROAD
高山道
山西街
SHANSI STREET
Elevated Road
高架單線路
MA TAU WAI ROAD
馬頭圍道
KOWLOON CITY ROAD
九龍城道
工場
Workshop
油站
Petrol Station
四川街
SZE CHUEN STREET
HA HEUNG ROAD
下鄉道
MEI WA STREET
麗華街
LAI WA ST
長寧街
CHEUNG NING ST
深山道
LOK SHAN ROAD
TO KWA WAN ROAD
土瓜灣道
馬頭圍道／土瓜灣道公園
Ma Tau Wai Road / To Kwa Wan Road Garden
遊樂場
Playground
益豐大廈
I-Feng Mansions
美善樓第二期
Mei King Mansion Phase 2
美善樓第一期
Mei King Mansion Phase 1
MEI KING STREET
NGAN HON STREET
銀漢街
LUNG TAK STREET
龍德街
HUNG FOOK STREET
鴻福街
YUK SHING STREET
啟明街
KAI MING STREET
WING KWONG STREET
榮光街
SUNG ON STREET
Appendix 8.10.2
Separation Distance Between HOM-2-1
and Notional Source (Stage 2)

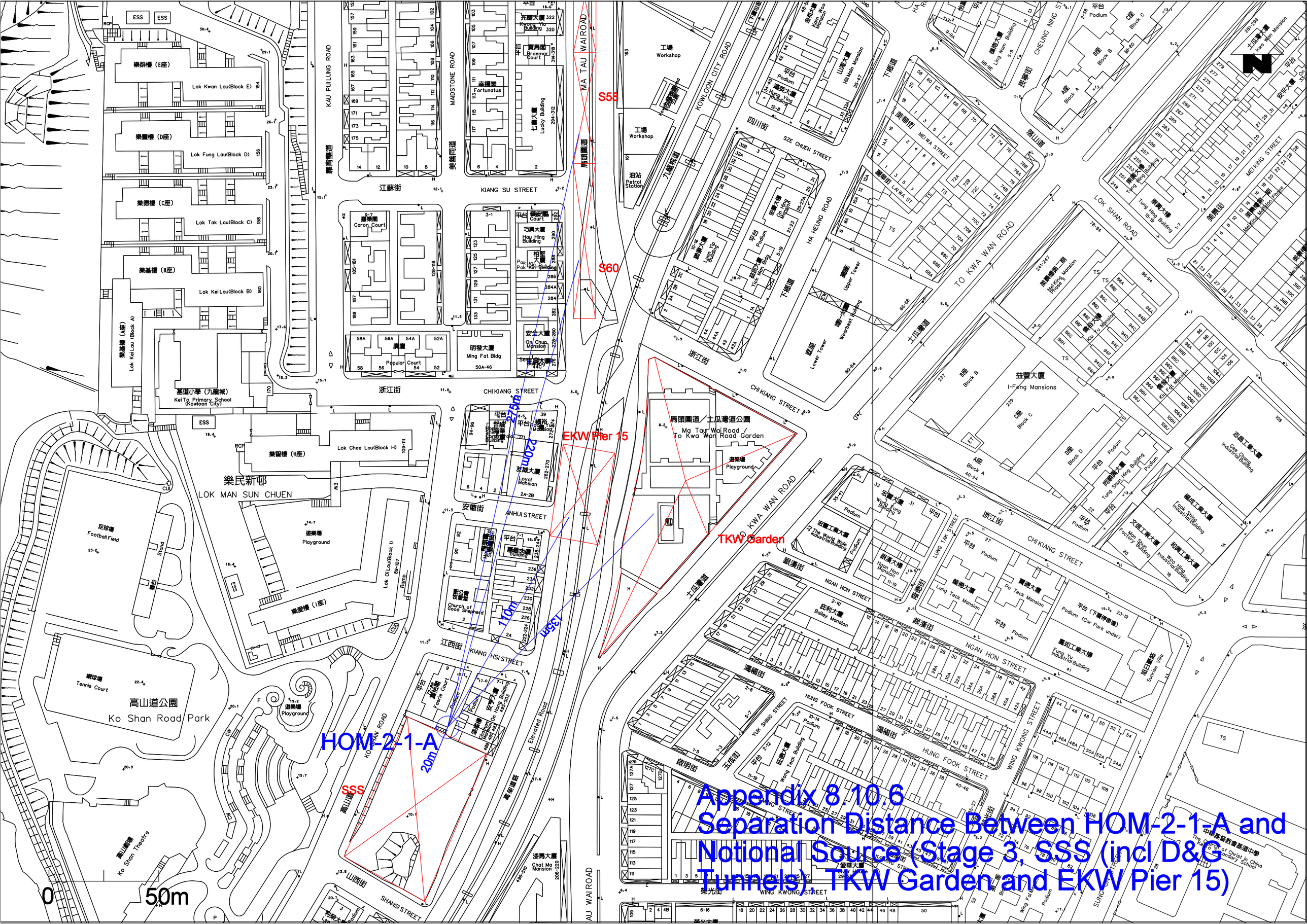


Appendix 8.10.3
Separation Distance Between HOM-2-1 and Notional Source (Stage 3, SSS (incl D&G Tunnels), TKW Garden and EKW Pier 15)

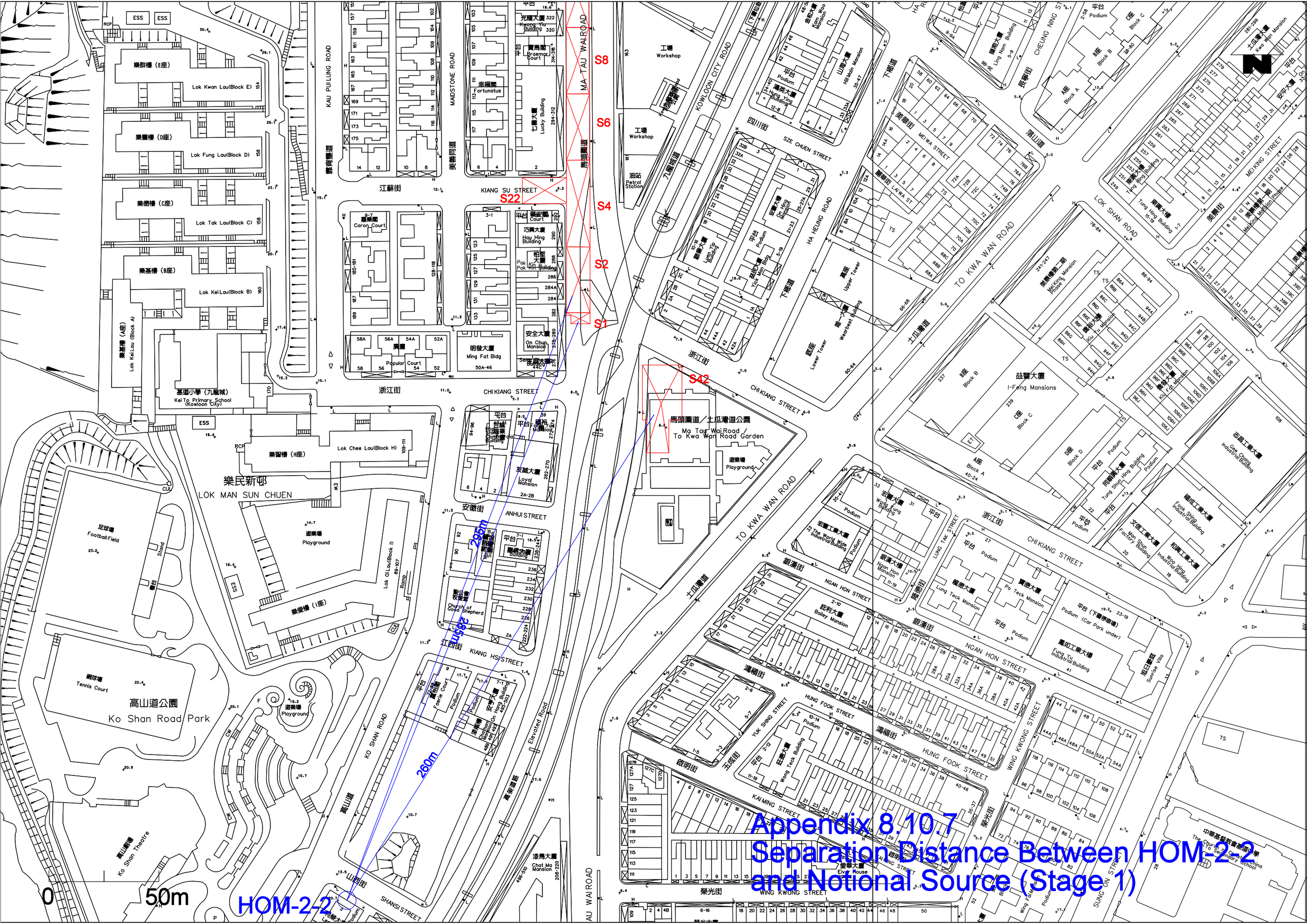


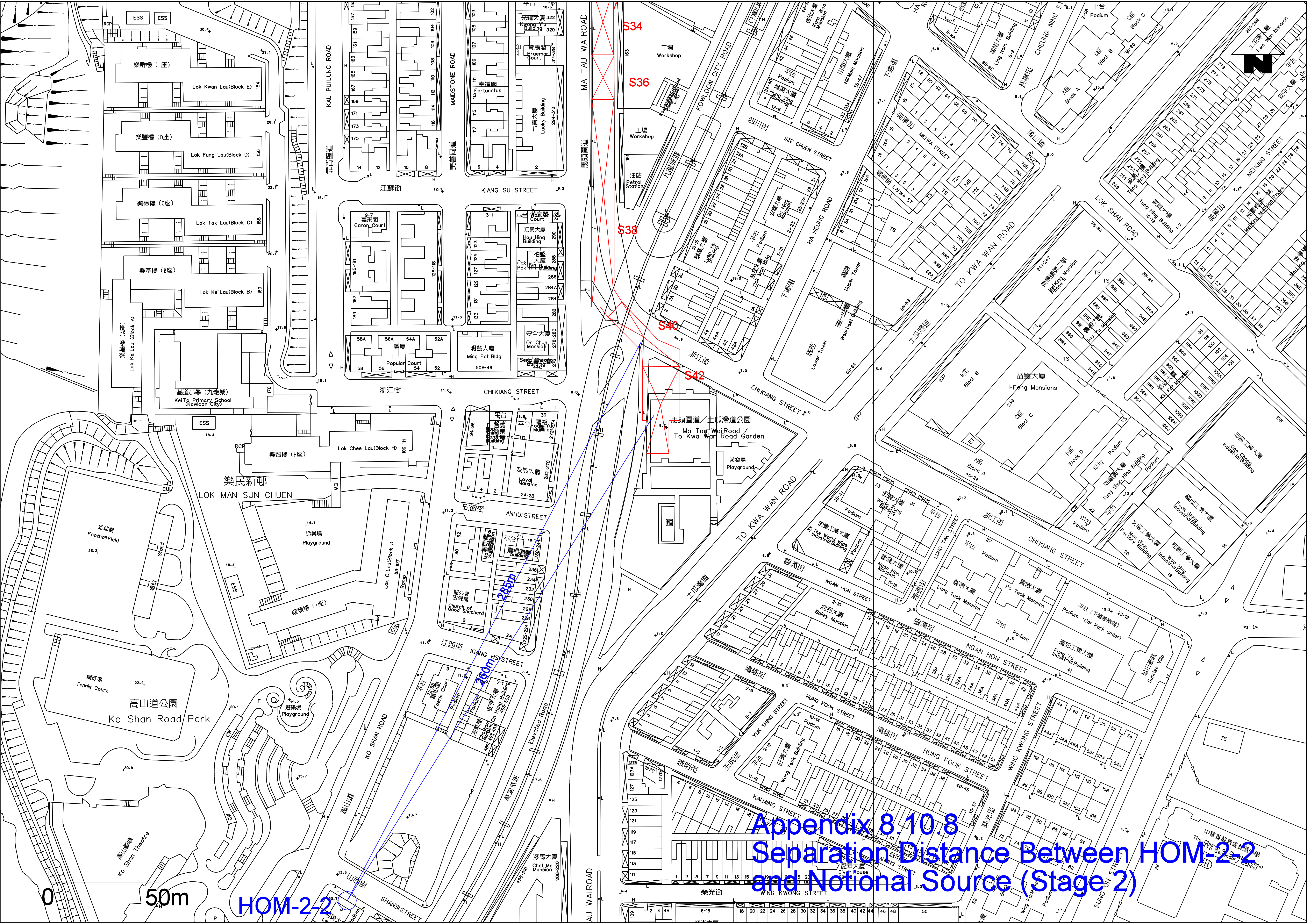
Appendix 8.10.4
Separation Distance Between HOM-2-1-A and Notional Source (Stage 1)


S34
S36
S38
S40
S42
245m
195m
170m
HOM-2-1-A
0
50m
樂群樓（E座）
Lok Kwan Lau(Block E)
樂豐樓（D座）
Lok Fung Lau(Block D)
樂德樓（C座）
Lok Tak Lau(Block C)
樂基樓（B座）
Lok Kei Lau(Block B)
樂基樓（A座）
Lok Kei Lau (Block A)
樂智樓（H座）
Lok Chee Lau(Block H)
樂民新邨
LOK MAN SUN CHUEN
樂愛樓（I座）
Lok Oi Lau(Block I)
基道小學（九龍城）
Kei To Primary School (Kowloon City)
足球場
Football Field
網球場
Tennis Court
遊樂場
Playground
高山道公園
Ko Shan Road Park
高山劇場
Ko Shan Theatre
KAU PUI LUNG ROAD
MAIDSTONE ROAD
美善同道
江蘇街
KIANG SU STREET
浙江街
CHI KIANG STREET
安徽街
ANHUI STREET
江西街
KIANG HSI STREET
山西街
SHANSI STREET
KOWLOON CITY ROAD
九龍城道
MA TAU WAI ROAD
馬頭圍道
工場
Workshop
油站
Petrol Station
四川街
SZE CHUEN STREET
HA HEUNG ROAD
下鄉道
MEWA STREET
業華街
LAI WA ST
麗華街
CHEUNG NING ST
長寧街
落山道
LOK SHAN ROAD
TO KWA WAN ROAD
土瓜灣道
MEI KING STREET
業興街
馬頭圍道／土瓜灣道公園
Ma Tau Wai Road / To Kwa Wan Road Garden
遊樂場
Playground
益豐大廈
I-Feng Mansions
銀漢街
NGAN HON STREET
鴻福街
HUNG FOOK STREET
啟明街
KAI MING STREET
榮光街
WING KWONG STREET
SUNG ON STREET
Elevated Road
高架道路
Appendix 8.10.5
Separation Distance Between HOM-2-1-A
and Notional Source (Stage 2)

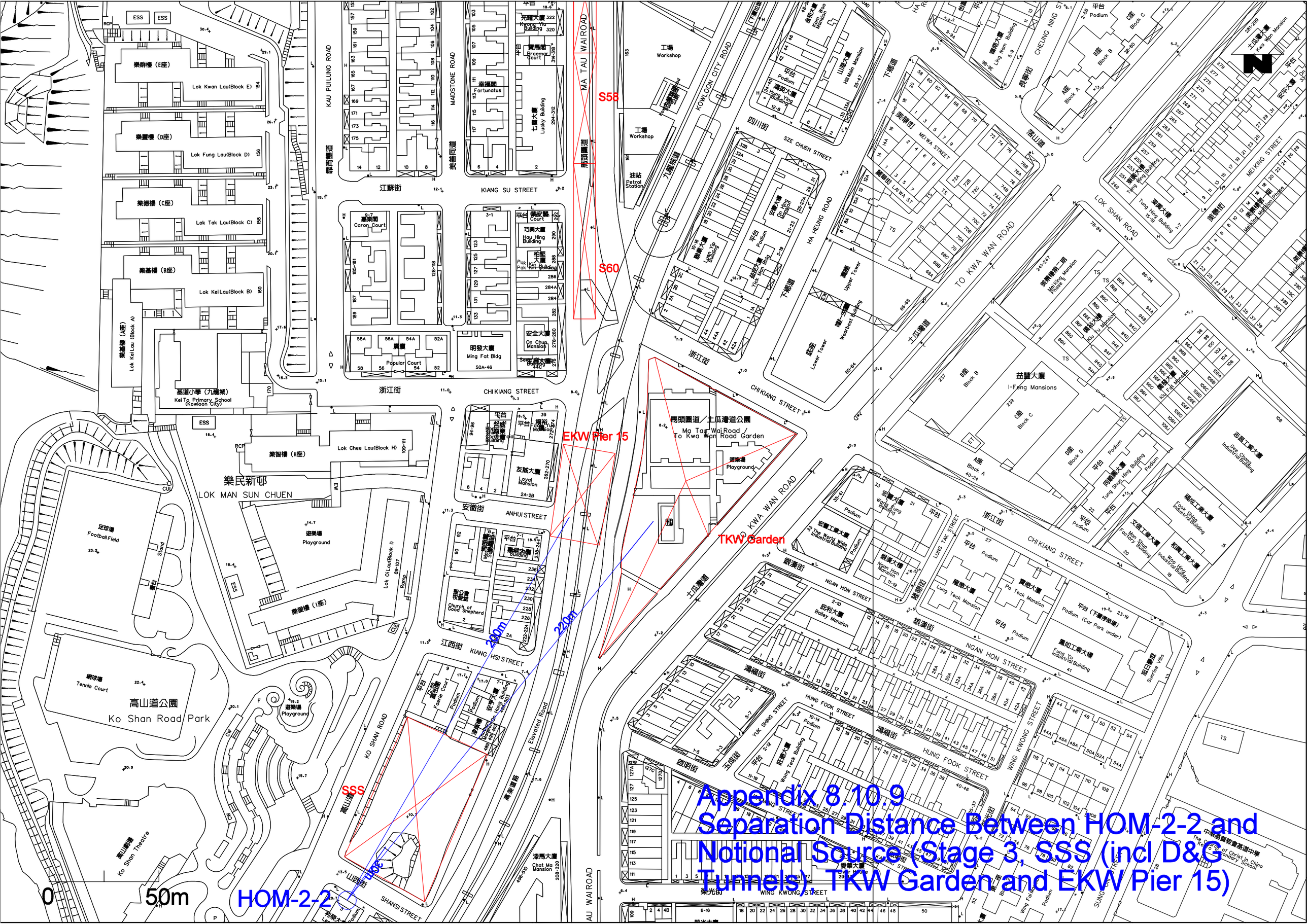


Appendix 8.10.6
Separation Distance Between HOM-2-1-A and Notional Source (Stage 3, SSS (incl D&G Tunnels), TKW Garden and EKW Pier 15)

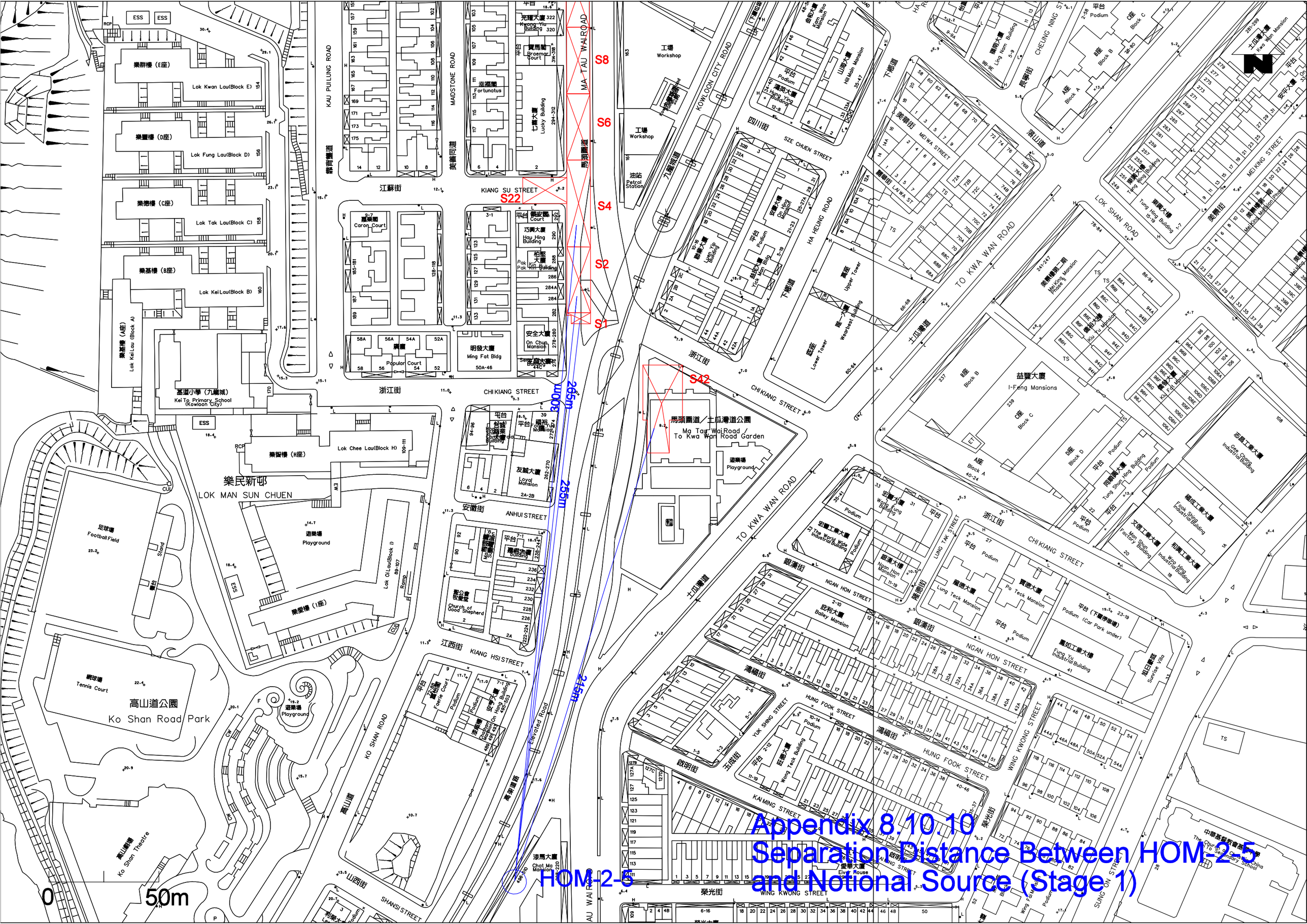

S8
S6
S4
S2
S1
S22
S42
295m
260m
HOM-2-2
0
50m
Appendix 8.10.7
Separation Distance Between HOM-2-2
and Notional Source (Stage 1)



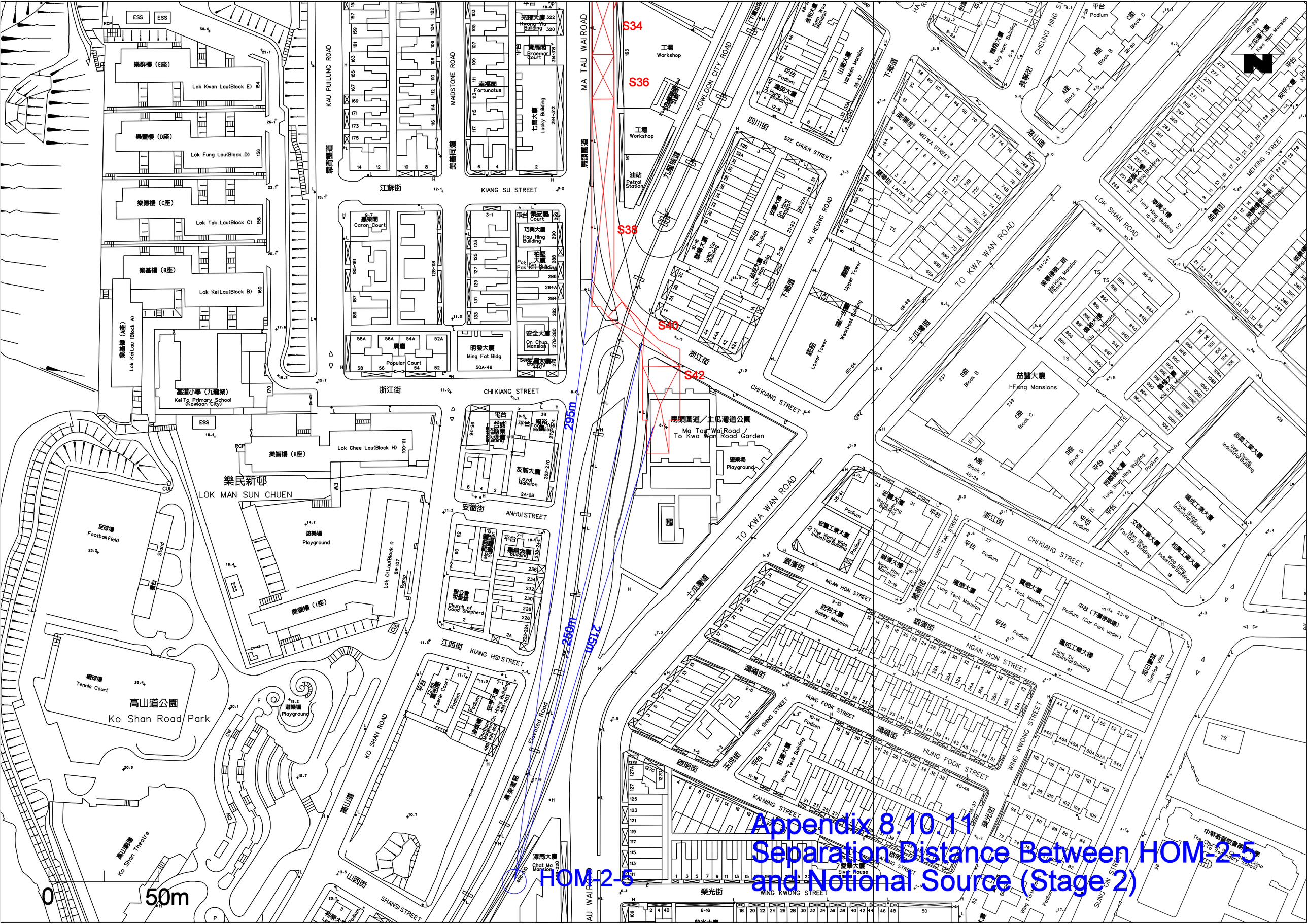
Appendix 8.10.8
Separation Distance Between HOM-2-2 and Notional Source (Stage 2)

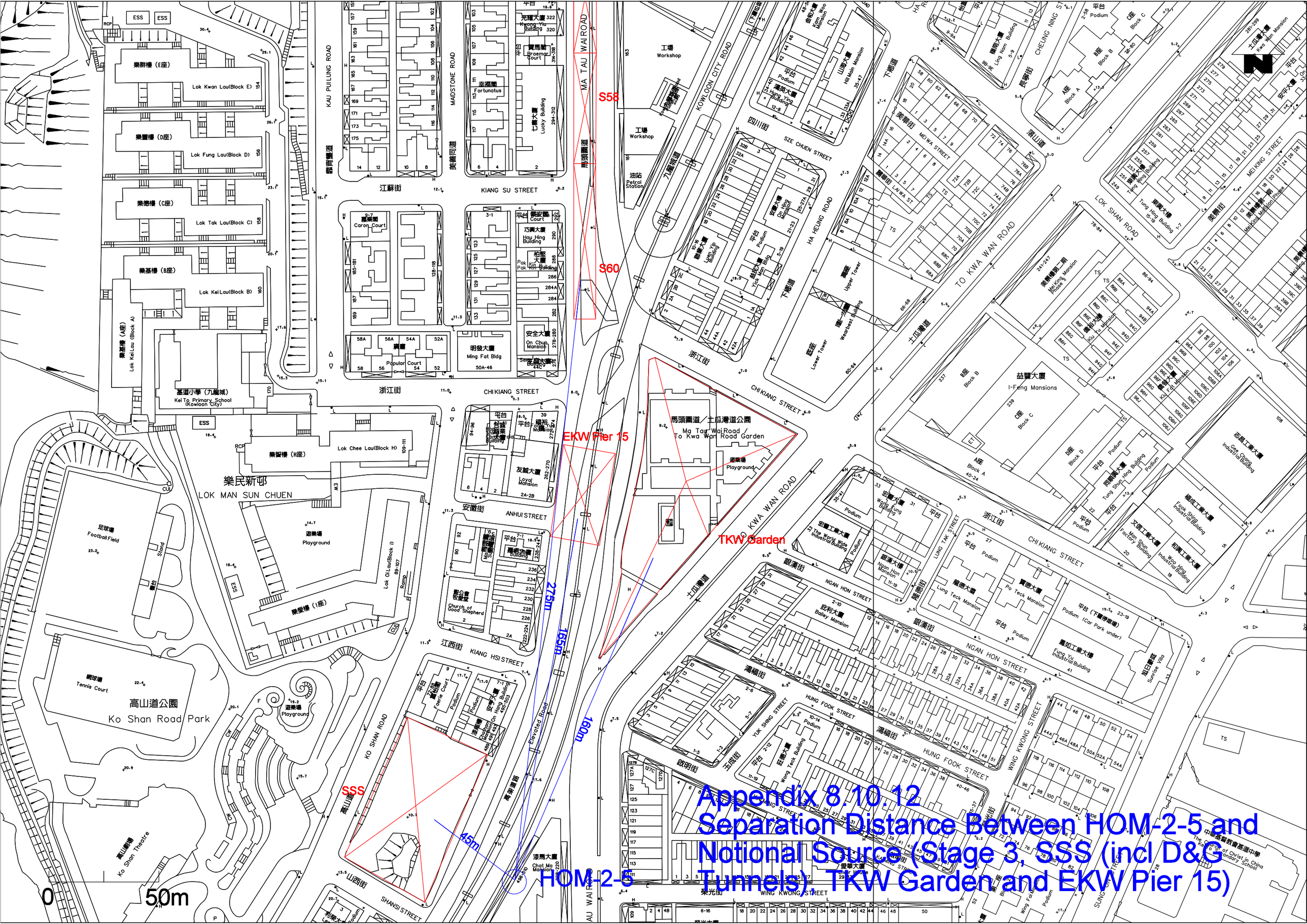


Appendix 8.10.9
Separation Distance Between HOM-2-2 and Notional Source (Stage 3, SSS (incl D&G Tunnels), TKW Garden and EKW Pier 15)

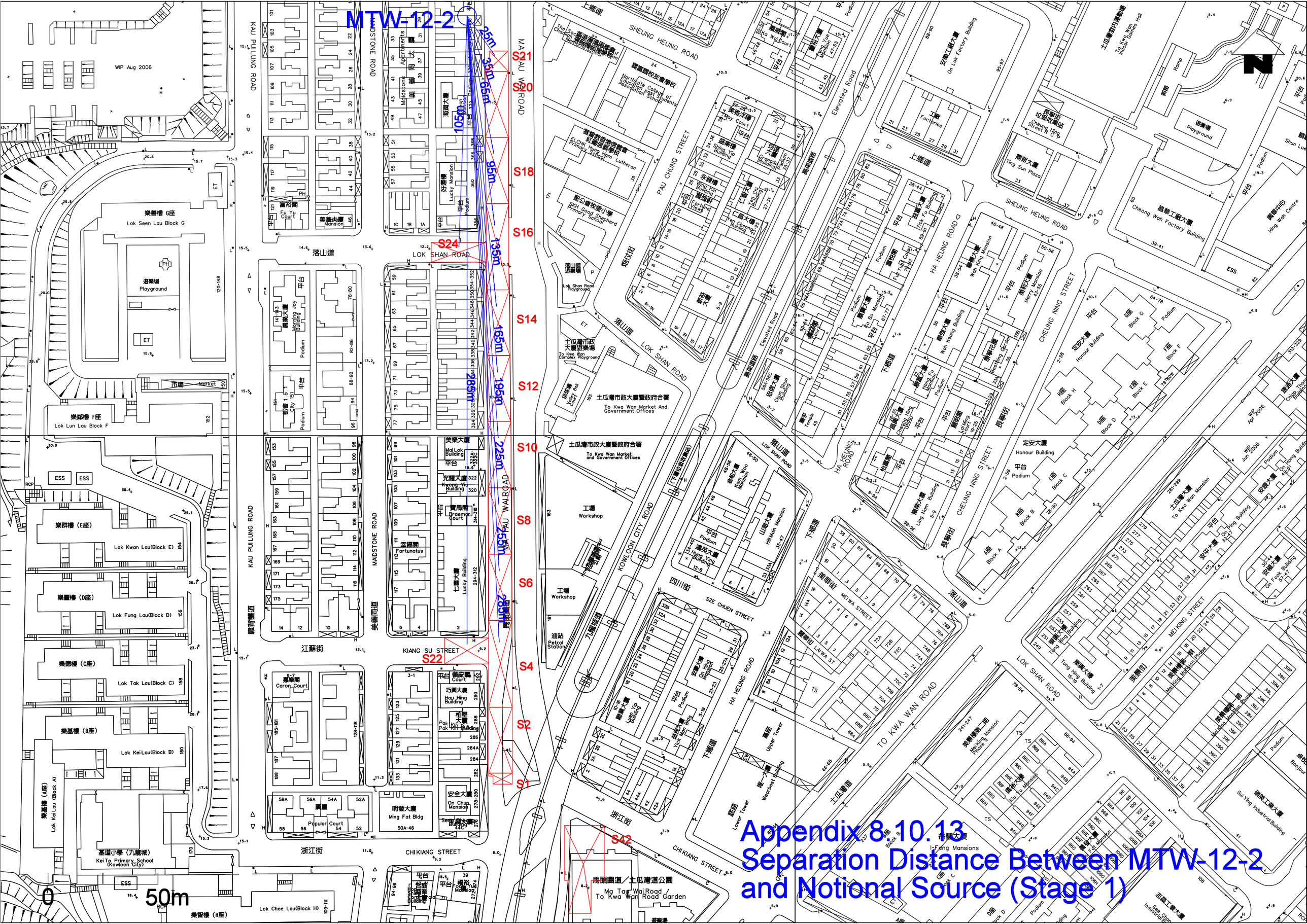


Appendix 8.10.10
Separation Distance Between HOM-2-5 and Notional Source (Stage 1)

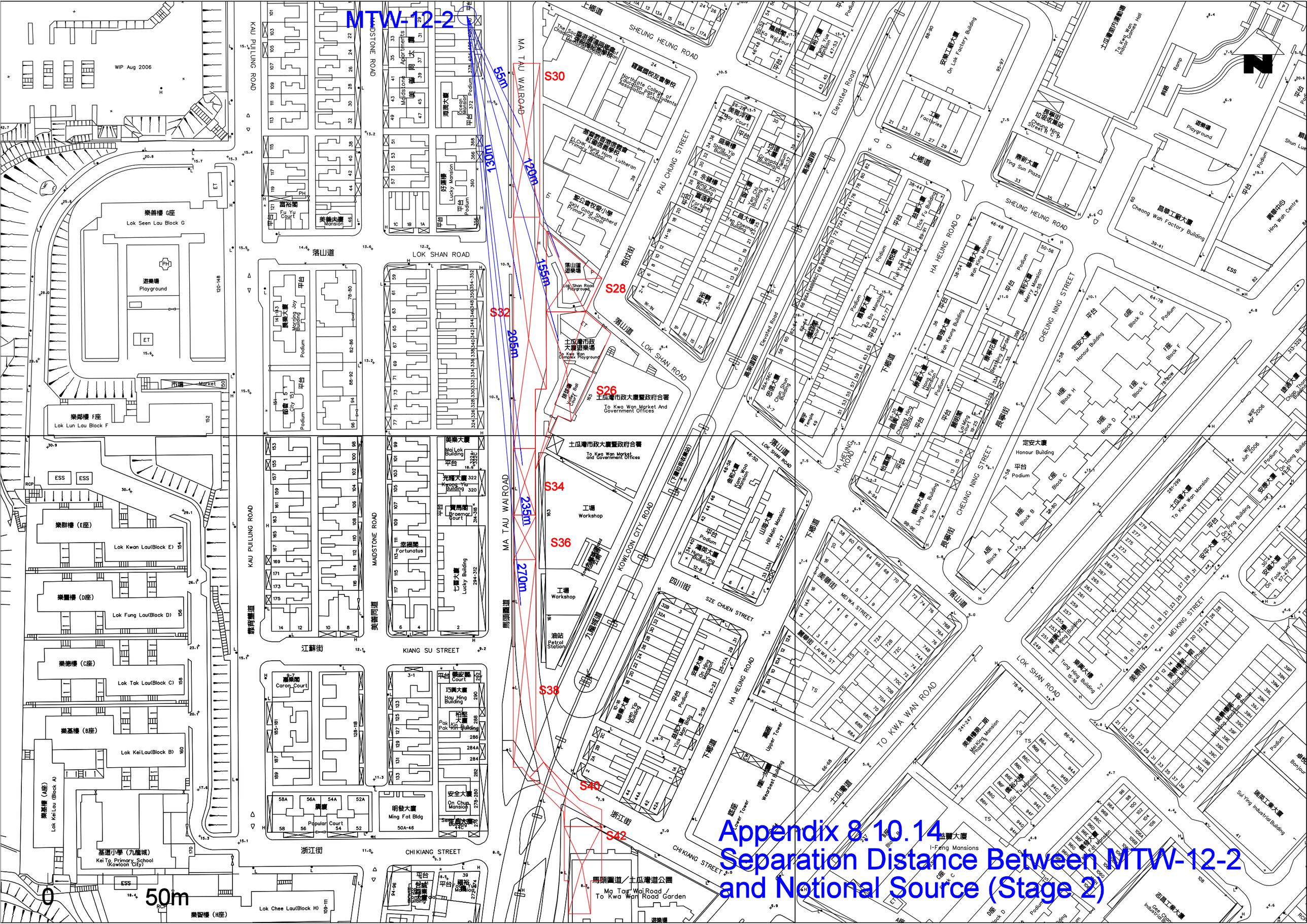

S34
S36
S38
S40
S42
295m
250m
HOM-2-5
0
50m
樂民新邨
LOK MAN SUN CHUEN
高山道公園
Ko Shan Road Park
馬頭圍道／土瓜灣道公園
Ma Tau Wai Road /
To Kwa Wan Road Garden
樂群樓（E座）
Lok Kwan Lau(Block E)
樂豐樓（D座）
Lok Fung Lau(Block D)
樂德樓（C座）
Lok Tak Lau(Block C)
樂基樓（B座）
Lok Kei Lau(Block B)
樂基樓（A座）
Lok Kei Lau (Block A)
樂智樓（H座）
Lok Chee Lau(Block H)
樂聖樓（I座）
Lok Qi Lau(Block I)
基道小學（九龍城）
Kei To Primary School
(Kowloon City)
足球場
Football Field
網球場
Tennis Court
遊樂場
Playground
高山劇場
Ko Shan Theatre
KAU PU LUNG ROAD
MAIDSTONE ROAD
美蘭同道
江蘇街
KIANG SU STREET
浙江街
CHI KIANG STREET
安徽街
ANHUI STREET
江西街
KIANG HSI STREET
KO SHAN ROAD
高山道
山西街
SHANSI STREET
Elevated Road
MA TAU WAI ROAD
馬頭圍道
九龍城道
KOWLOON CITY ROAD
四川街
SZE CHUEN STREET
HA HEUNG ROAD
下鄉道
TO KWA WAN ROAD
土瓜灣道
CHEUNG NING STREET
長寧街
LOK SHAN ROAD
落山道
MEIKING STREET
美景街
MEIWA STREET
LAI WA ST
銀漢街
NGAN HON STREET
鴻福街
HUNG FOOK STREET
啟明街
KAI MING STREET
榮光街
WING KWONG STREET
SUNG ON STREET
益豐大廈
I-Feng Mansions
Appendix 8.10.11
Separation Distance Between HOM-2-5
and Notional Source (Stage 2)

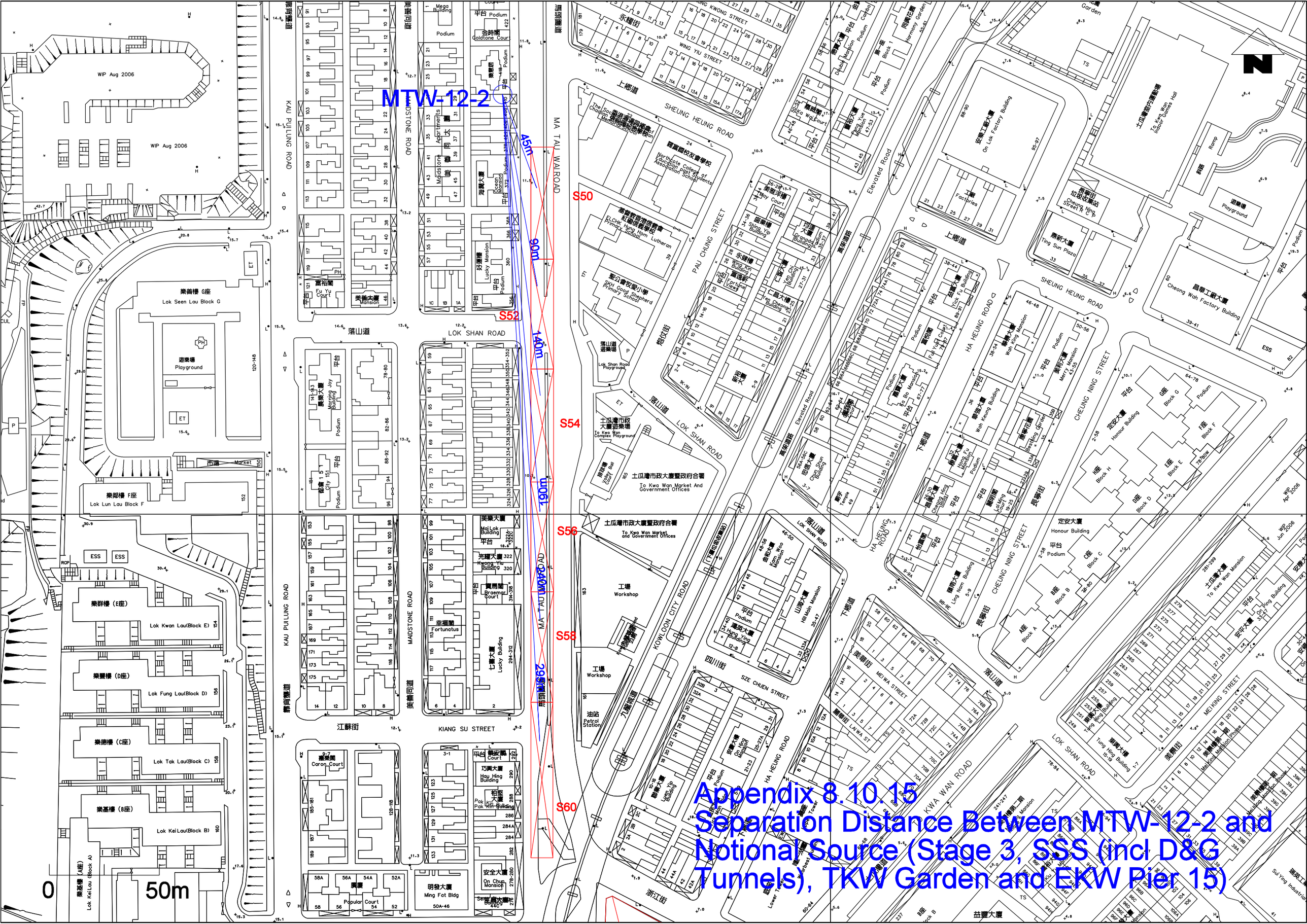


Appendix 8.10.12
Separation Distance Between HOM-2-5 and Notional Source (Stage 3, SSS (incl D&G Tunnels), TKW Garden and EKW Pier 15)

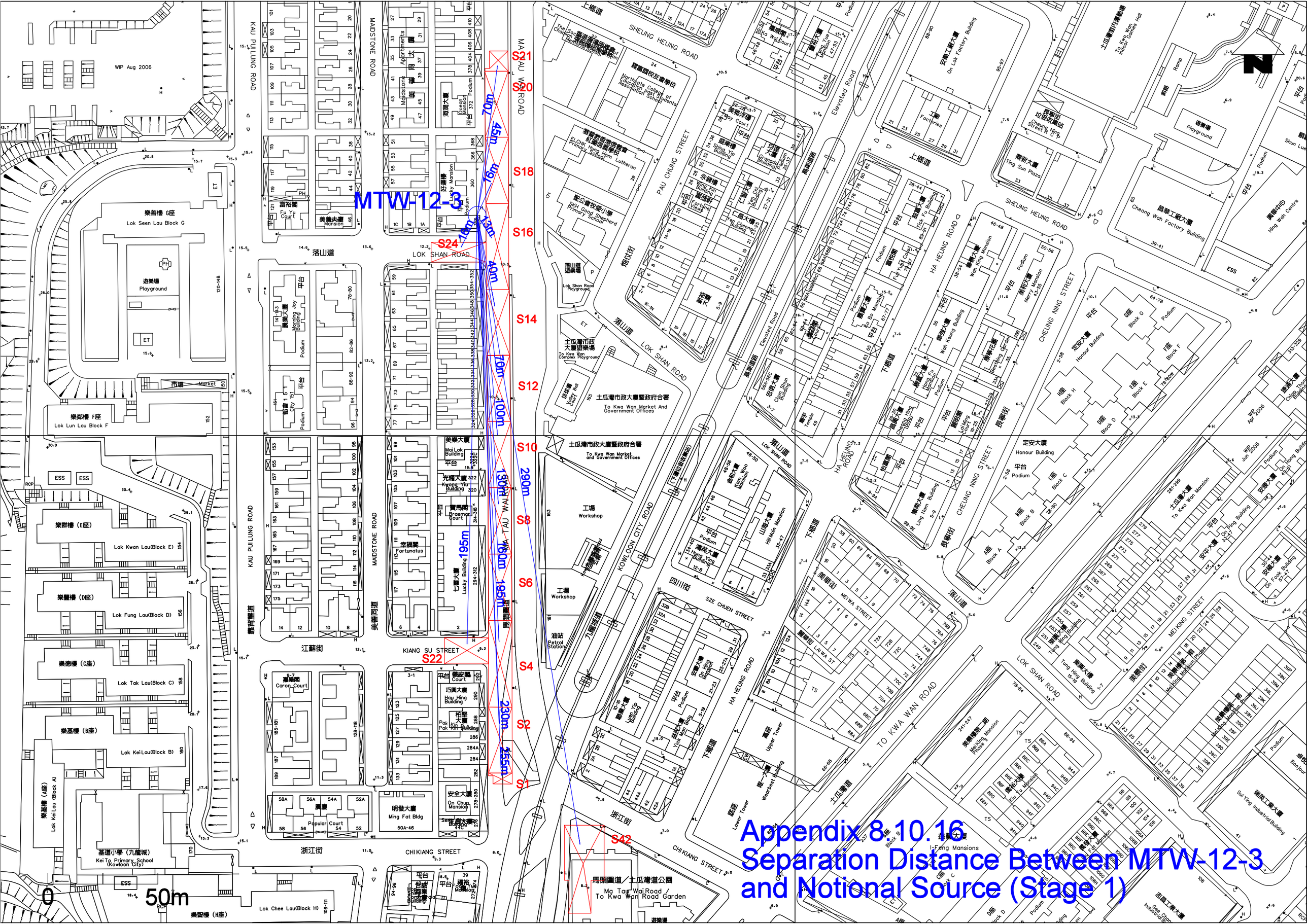


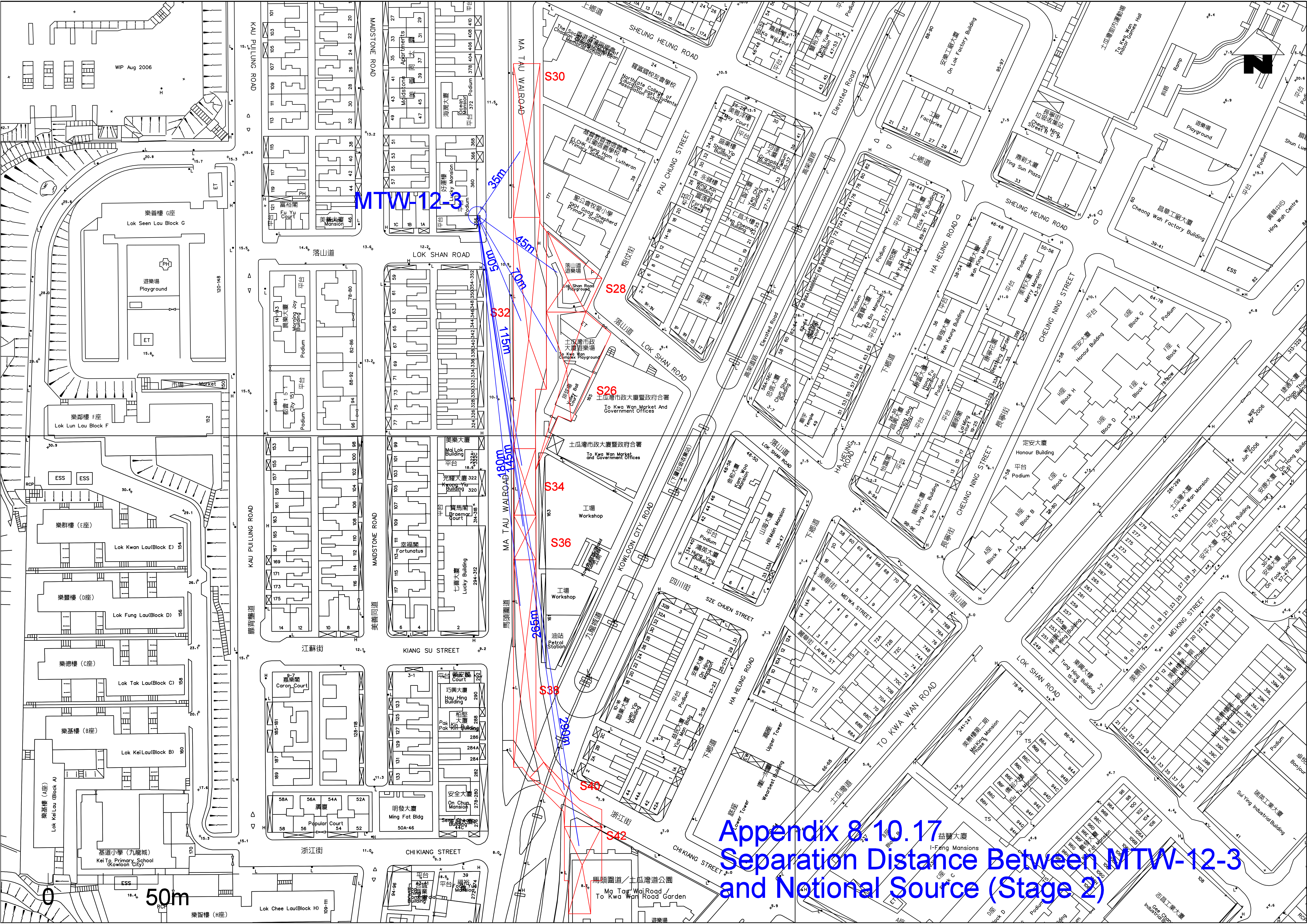
Appendix 8.10.13 Separation Distance Between MTW-12-2 and Notional Source (Stage 1)


MTW-12-2
55m
130m
120m
155m
205m
235m
270m
S30
S28
S32
S26
S34
S36
S38
S40
S42
0
50m
KAU PUI LUNG ROAD
MAIDSTONE ROAD
MA TAU WAI ROAD
SHEUNG HEUNG ROAD
PAU CHUNG STREET
LOK SHAN ROAD
KOWLOON CITY ROAD
HA HEUNG ROAD
TO KWA WAN ROAD
CHEUNG NING STREET
MEIKING STREET
KIANG SU STREET
CHI KIANG STREET
SZE CHUEN STREET
MEIWA STREET
Elevated Road
樂善樓 G座
Lok Seen Lau Block G
樂鄰樓 F座
Lok Lun Lau Block F
樂群樓 (E座)
Lok Kwan Lau(Block E)
樂豐樓 (D座)
Lok Fung Lau(Block D)
樂總樓 (C座)
Lok Tak Lau(Block C)
樂基樓 (B座)
Lok Kei Lau(Block B)
樂基樓 (A座)
Lok Kei Lau (Block A)
樂智樓 (H座)
Lok Chee Lau(Block H)
基道小學 (九龍城)
Kei To Primary School (Kowloon City)
土瓜灣市政大廈暨政府合署
To Kwa Wan Market And Government Offices
土瓜灣市政大廈遊樂場
To Kwa Wan Complex Playground
馬頭圍道／土瓜灣道公園
Ma Tau Wai Road / To Kwa Wan Road Garden
工場 Workshop
油站 Petrol Station
落山道遊樂場
Lok Shan Road Playground
聖公會牧愛小學
Shk Good Shepherd Primary School
FLCHK Yung Kom Primary School
North Point College of Education Association Secondary School
Lutheran
Appendix 8.10.14
Separation Distance Between MTW-12-2
and Notional Source (Stage 2)

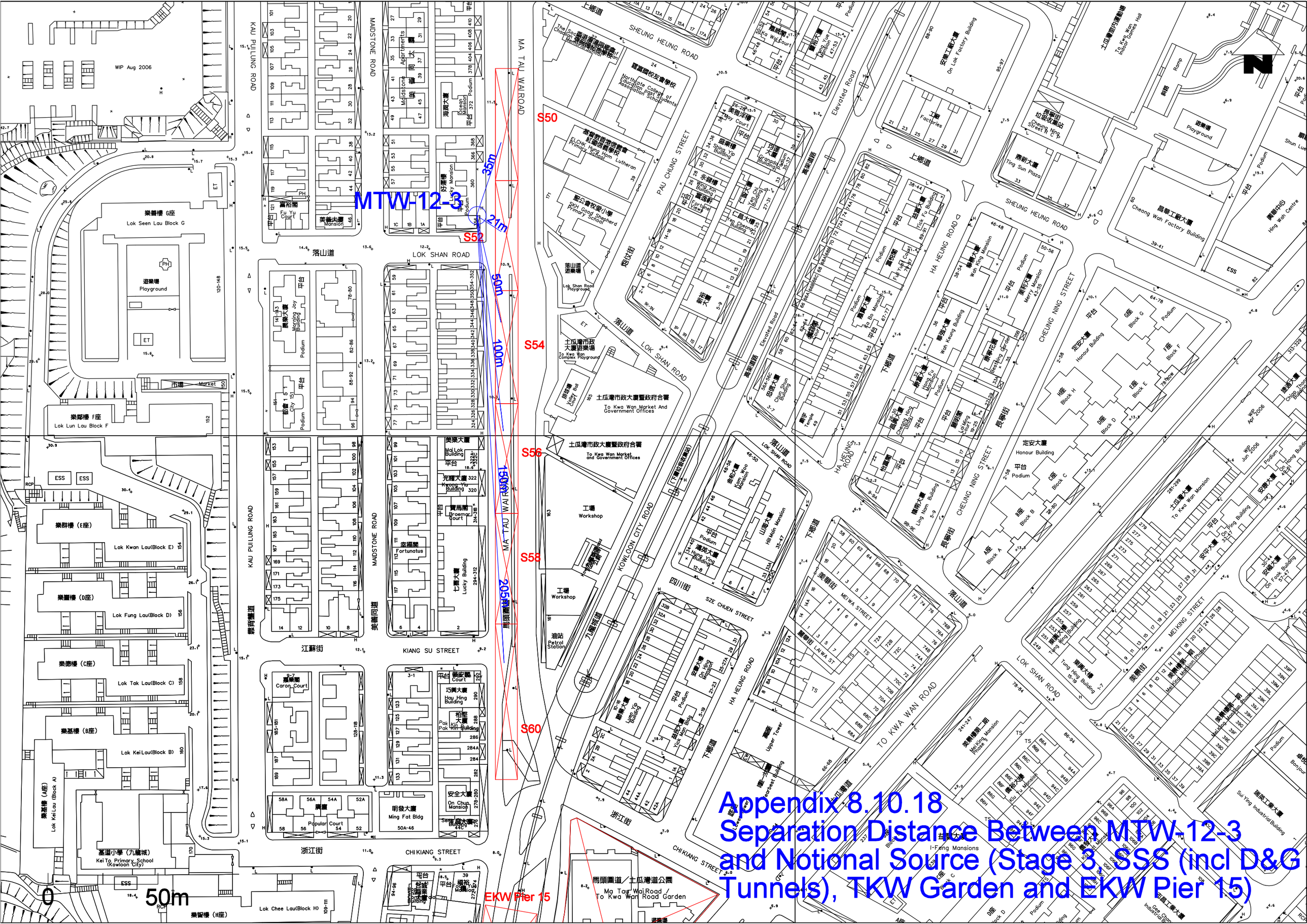


Appendix 8.10.15
Separation Distance Between MTW-12-2 and Notional Source (Stage 3, SSS (incl D&G Tunnels), TKW Garden and EKW Pier 15)

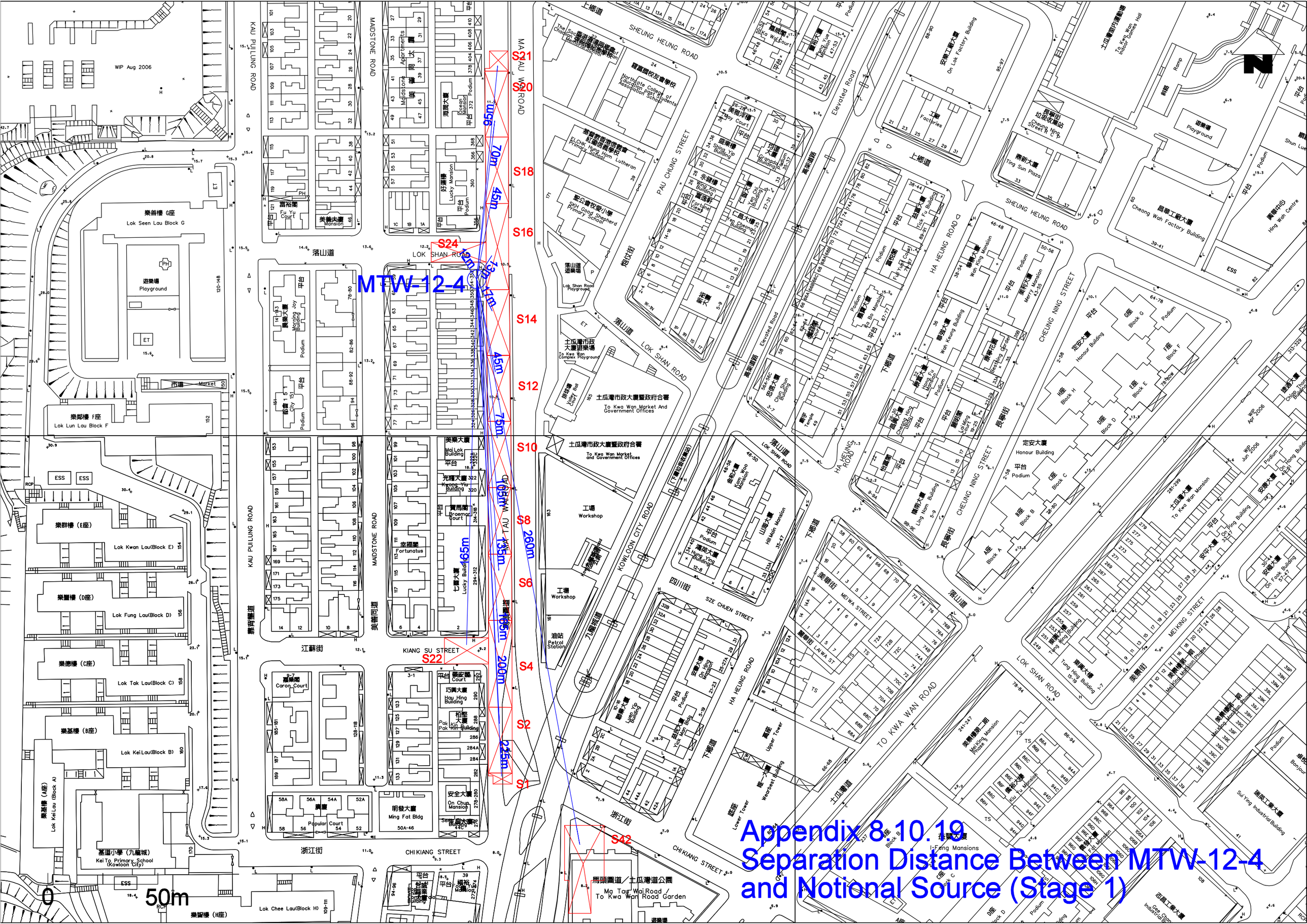

MTW-12-3
S21
S20
S18
S16
S24
S14
S12
S10
S8
S6
S4
S22
S2
S1
S42
70m
45m
76m
130m
40m
70m
100m
130m
290m
195m
160m
195m
230m
255m
0
50m
KAU PUI LUNG ROAD
MAIDSTONE ROAD
MA TAU WAI ROAD
SHEUNG HEUNG ROAD
PAU CHUNG STREET
LOK SHAN ROAD
KOWLOON CITY ROAD
HA HEUNG ROAD
TO KWA WAN ROAD
CHEUNG NING STREET
MEIKING STREET
CHI KIANG STREET
KIANG SU STREET
樂善樓 G座
Lok Seen Lau Block G
遊樂場
Playground
市場 Market
樂鄰樓 F座
Lok Lun Lau Block F
樂群樓 (E座)
Lok Kwan Lau(Block E)
樂豐樓 (D座)
Lok Fung Lau(Block D)
樂德樓 (C座)
Lok Tak Lau(Block C)
樂基樓 (B座)
Lok Kei Lau(Block B)
樂基樓 (A座)
Lok Kei Lau (Block A)
樂留樓 (H座)
Lok Chee Lau(Block H)
基道小學 (九龍城)
Kei To Primary School (Kowloon City)
土瓜灣市政大廈暨政府合署
To Kwa Wan Market And Government Offices
土瓜灣市政大廈遊樂場
To Kwa Wan Complex Playground
馬頭圍道／土瓜灣道公園
Ma Tau Wai Road / To Kwa Wan Road Garden
工場
Workshop
油站
Petrol Station
Appendix 8.10.16
Separation Distance Between MTW-12-3
and Notional Source (Stage 1)



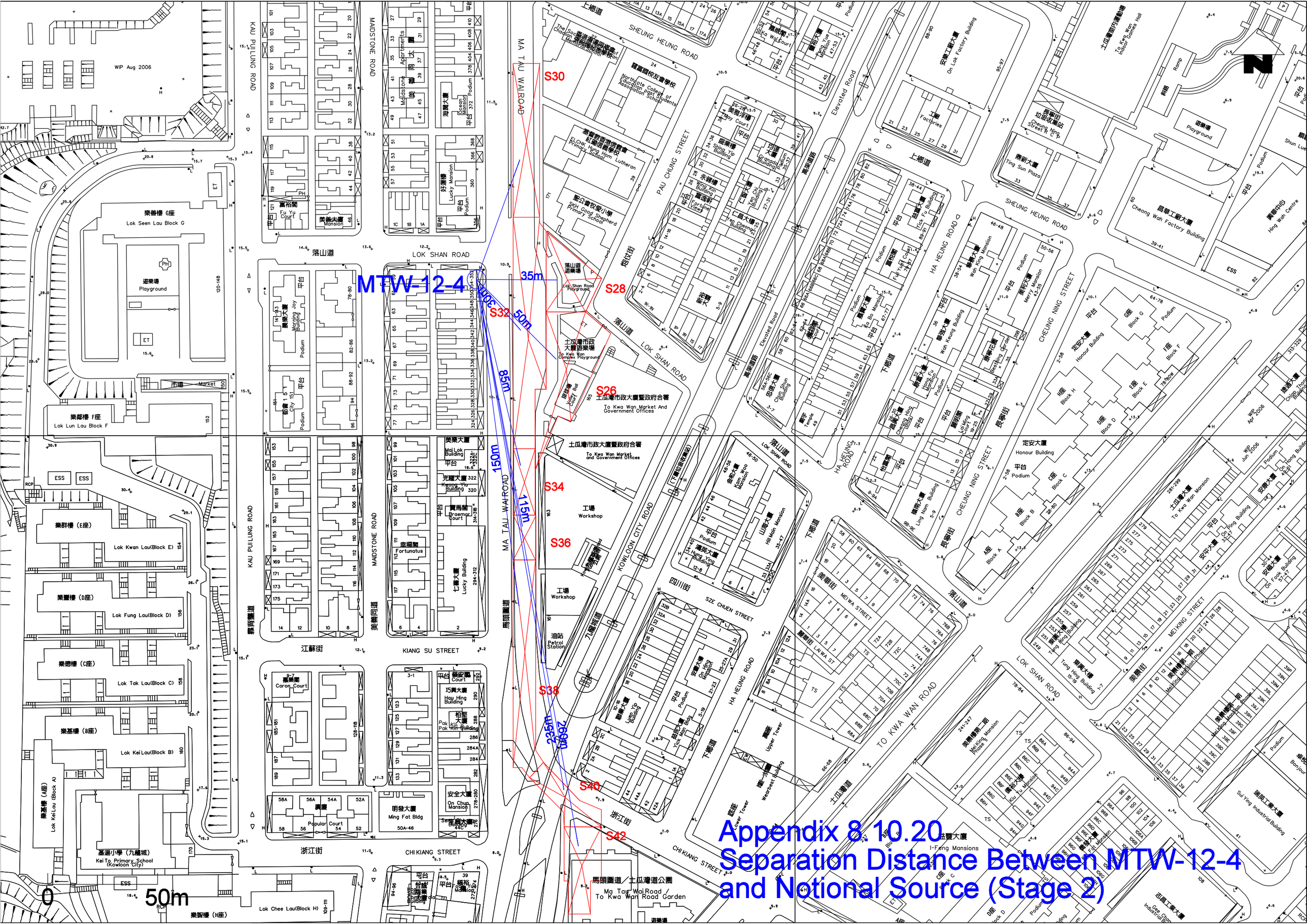
Appendix 8.10.17
Separation Distance Between MTW-12-3 and Notional Source (Stage 2)



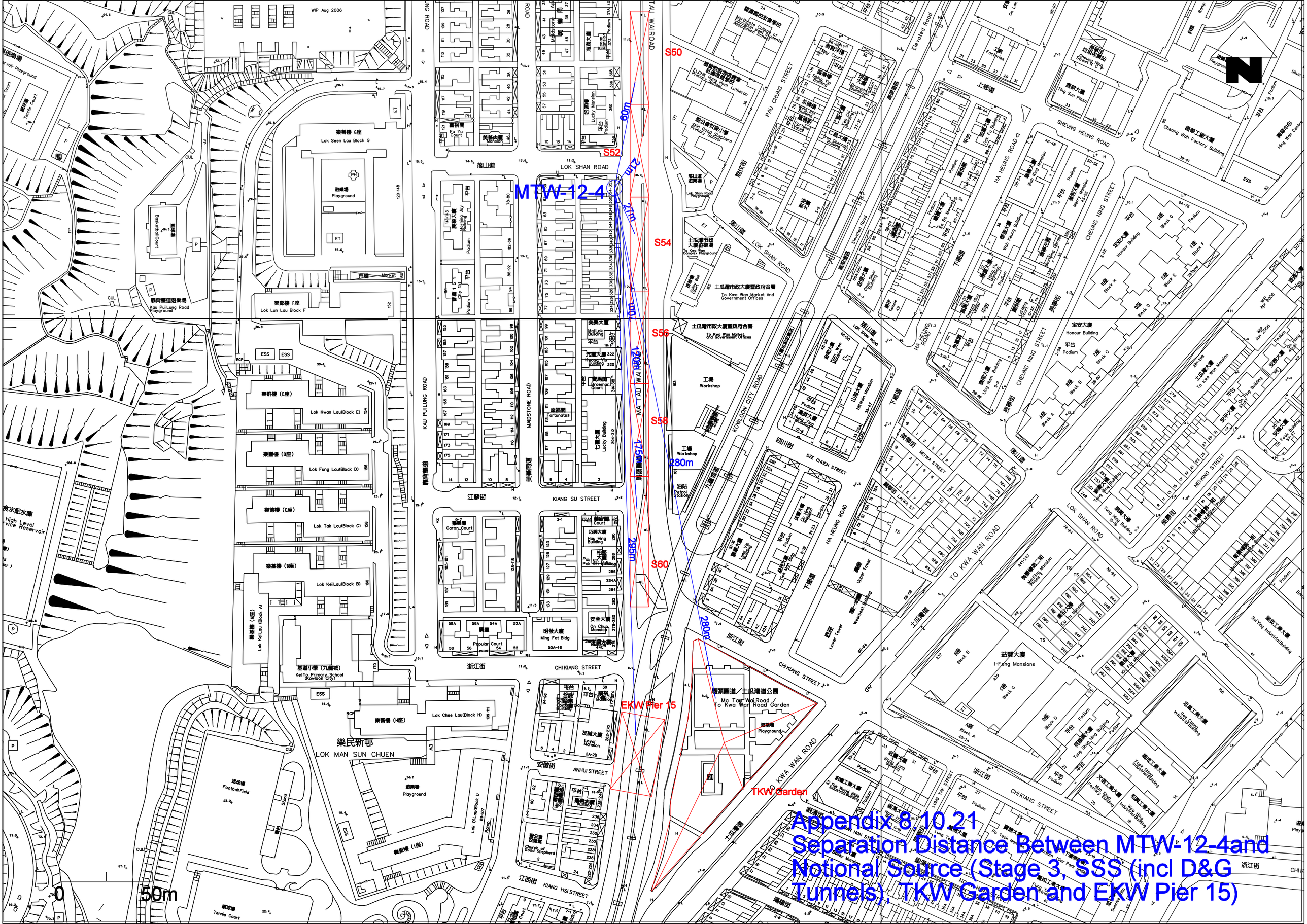
Appendix 8.10.18
Separation Distance Between MTW-12-3 and Notional Source (Stage 3, SSS (incl D&G Tunnels), TKW Garden and EKW Pier 15)



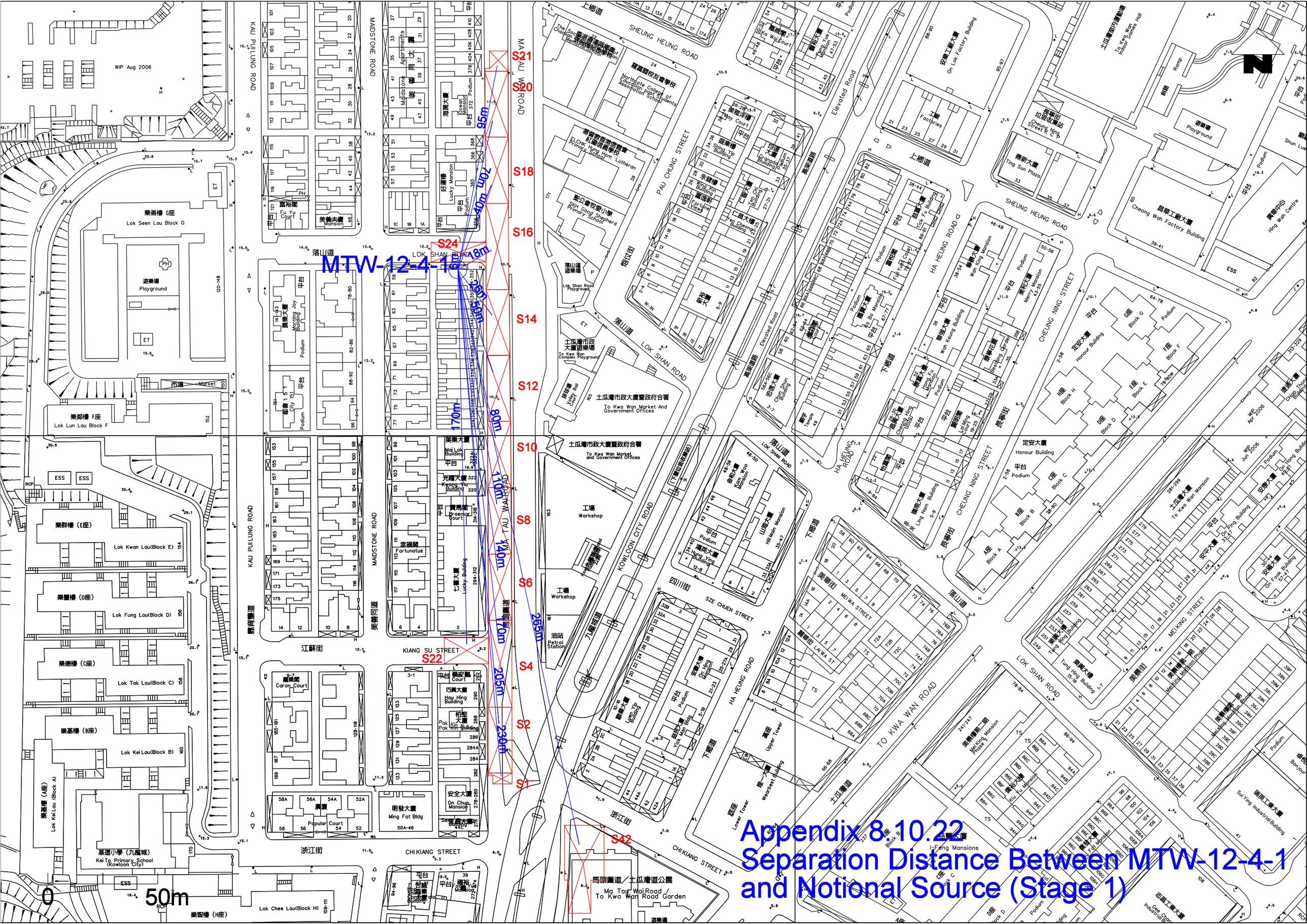
Appendix 8.10.19
Separation Distance Between MTW-12-4 and Notional Source (Stage 1)



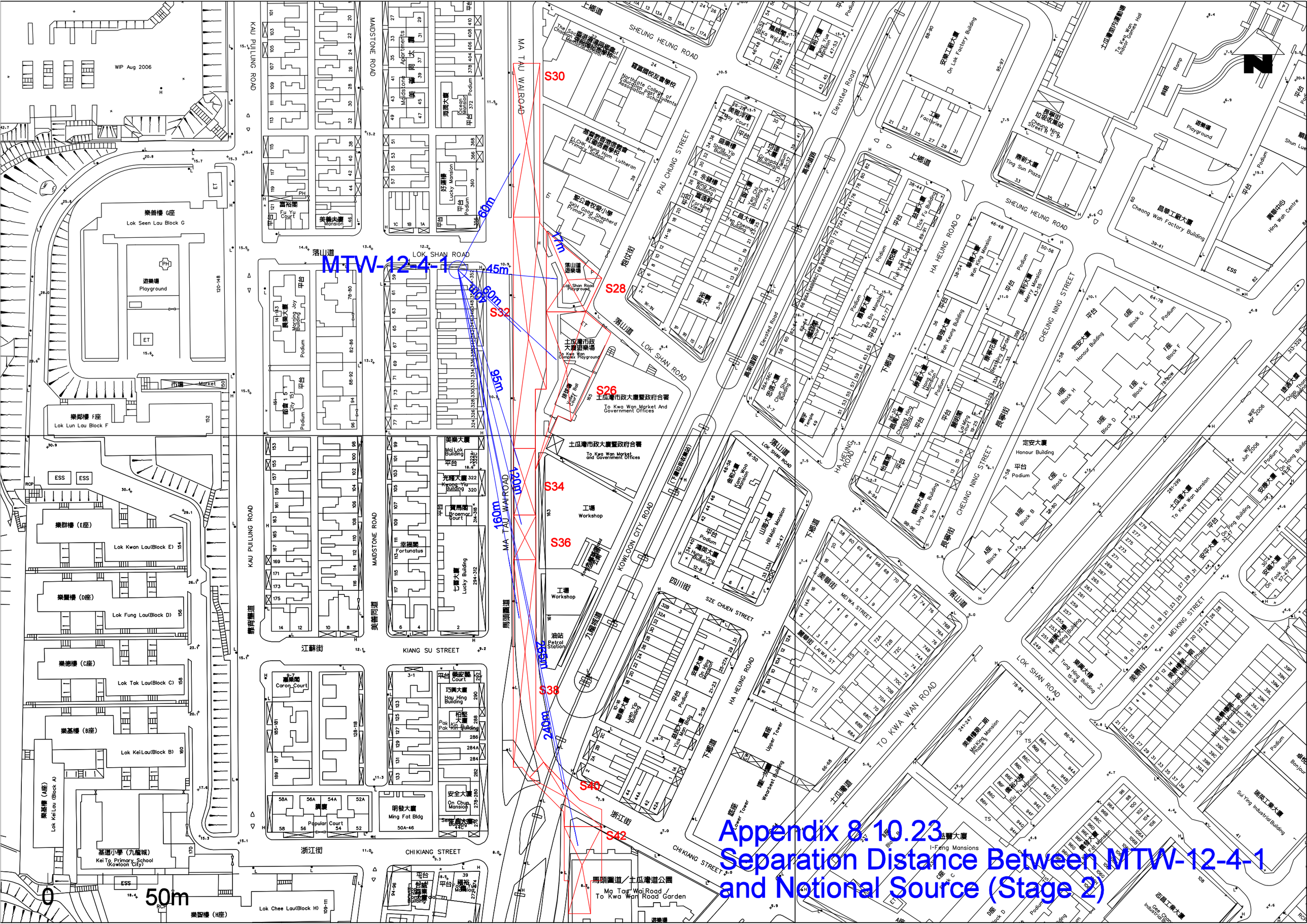
Appendix 8.10.20 Separation Distance Between MTW-12-4 and Notional Source (Stage 2)



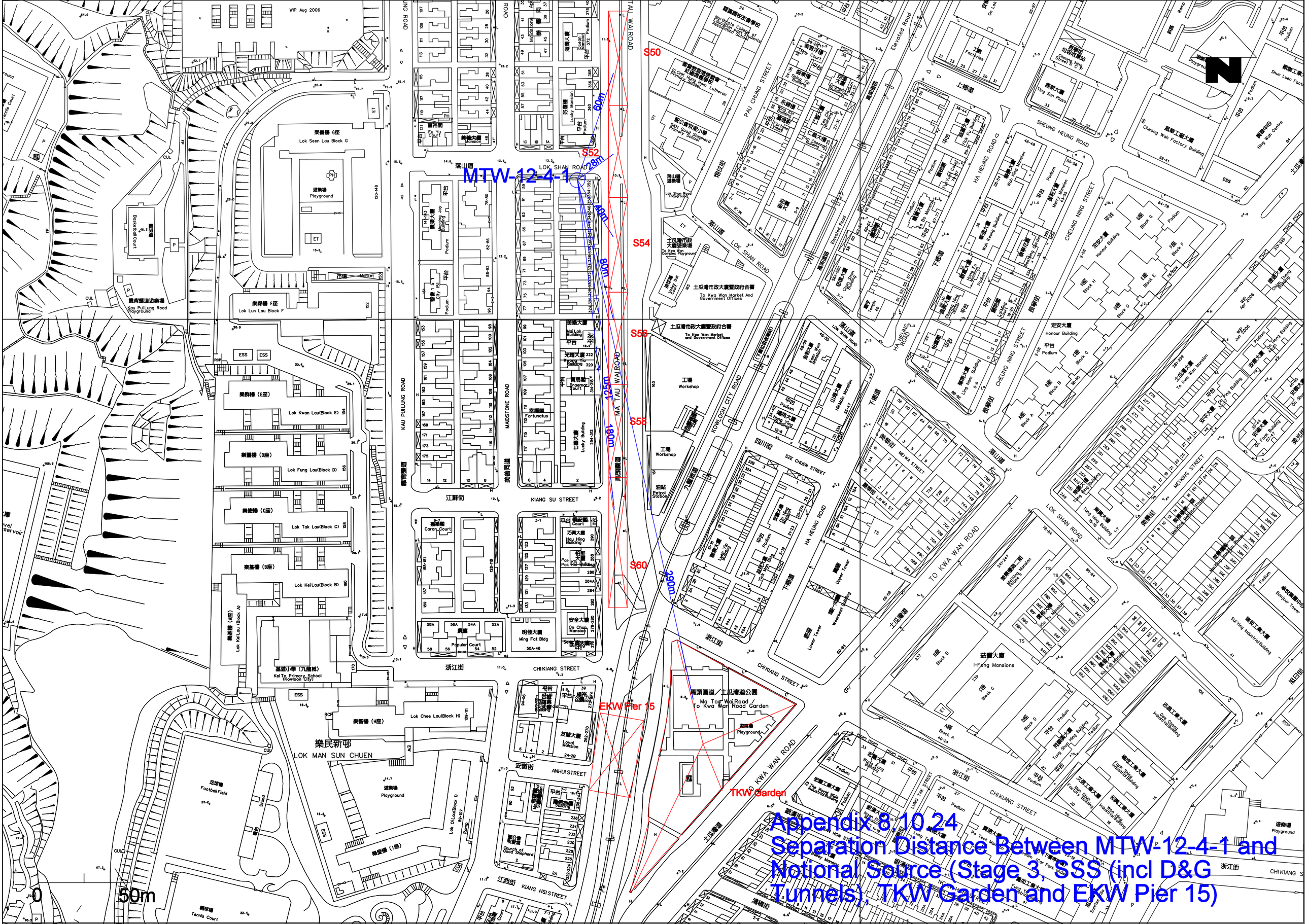
Appendix 8.10.21
Separation Distance Between MTW-12-4and Notional Source (Stage 3, SSS (incl D&G Tunnels), TKW Garden and EKW Pier 15)



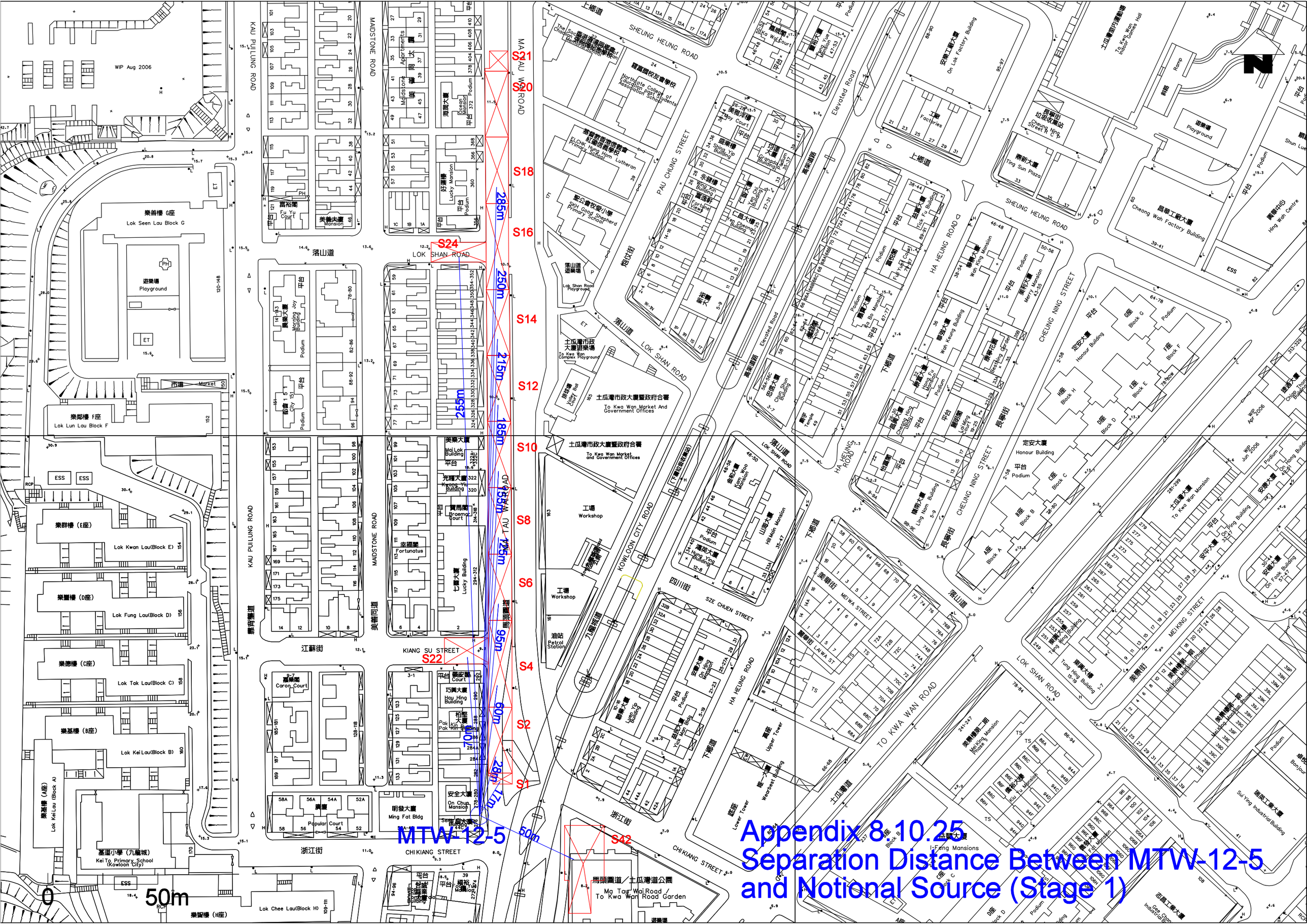
Appendix 8.10.22
Separation Distance Between MTW-12-4-1 and Notional Source (Stage 1)

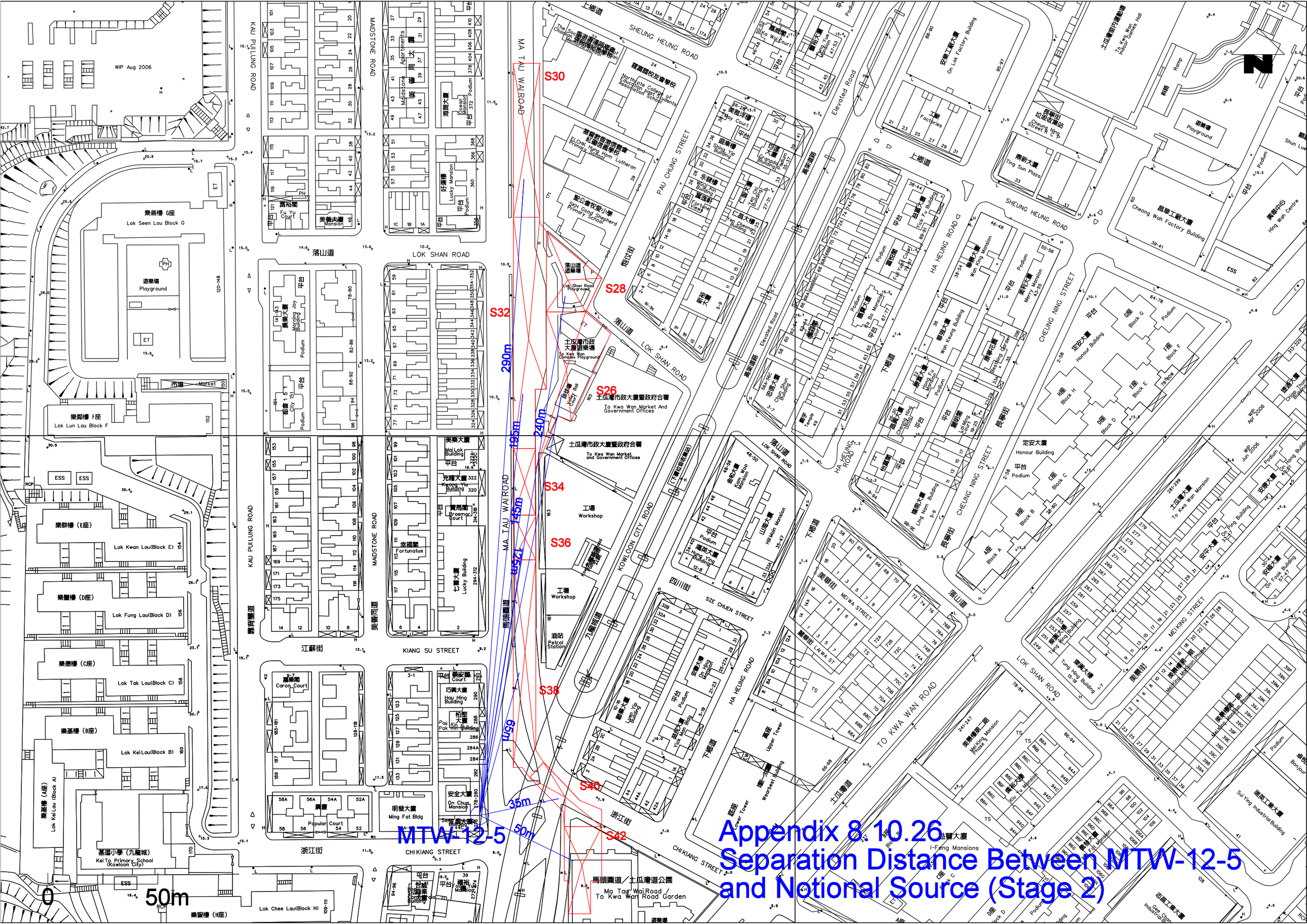


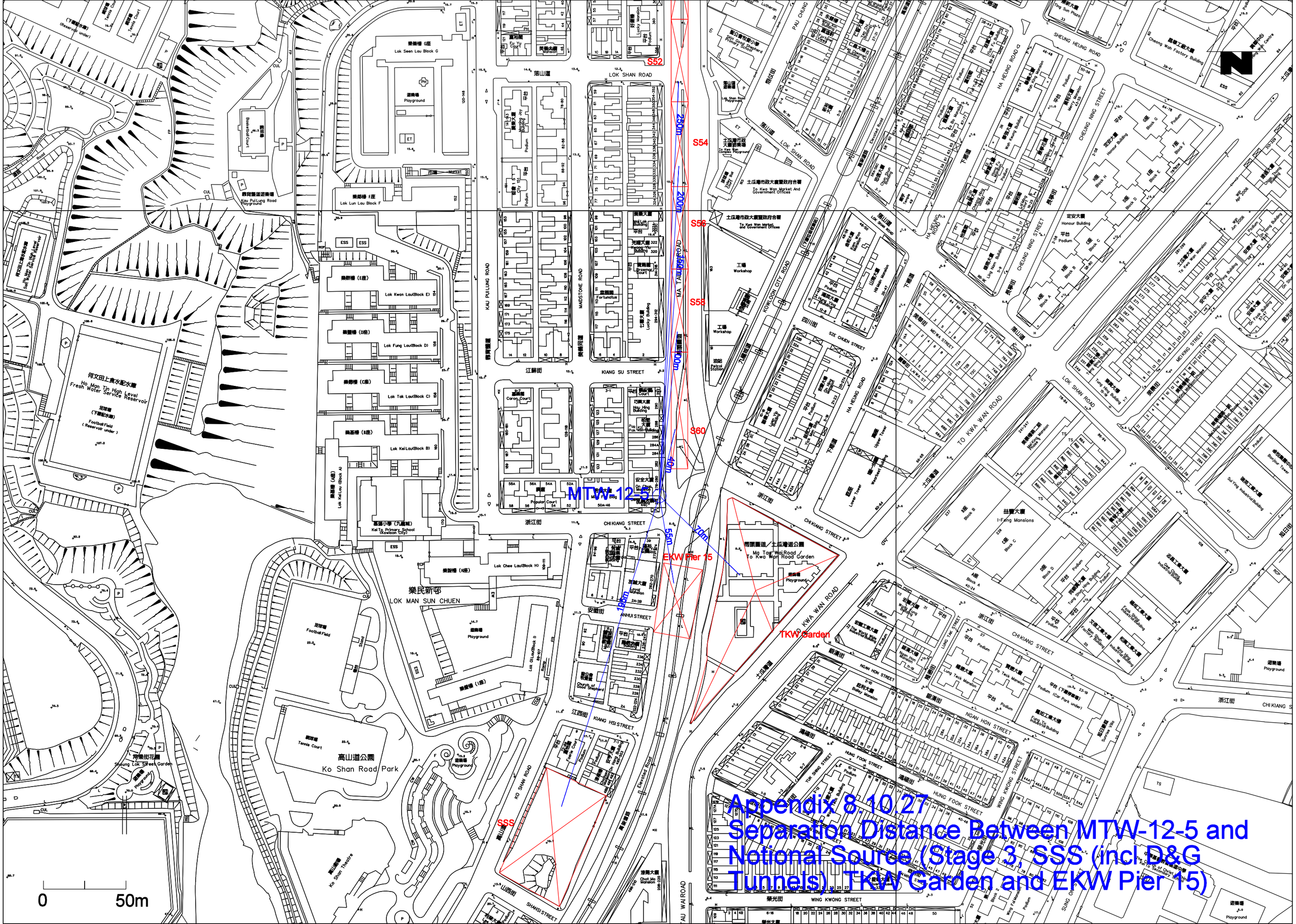
Appendix 8.10.23
Separation Distance Between MTW-12-4-1 and Notional Source (Stage 2)



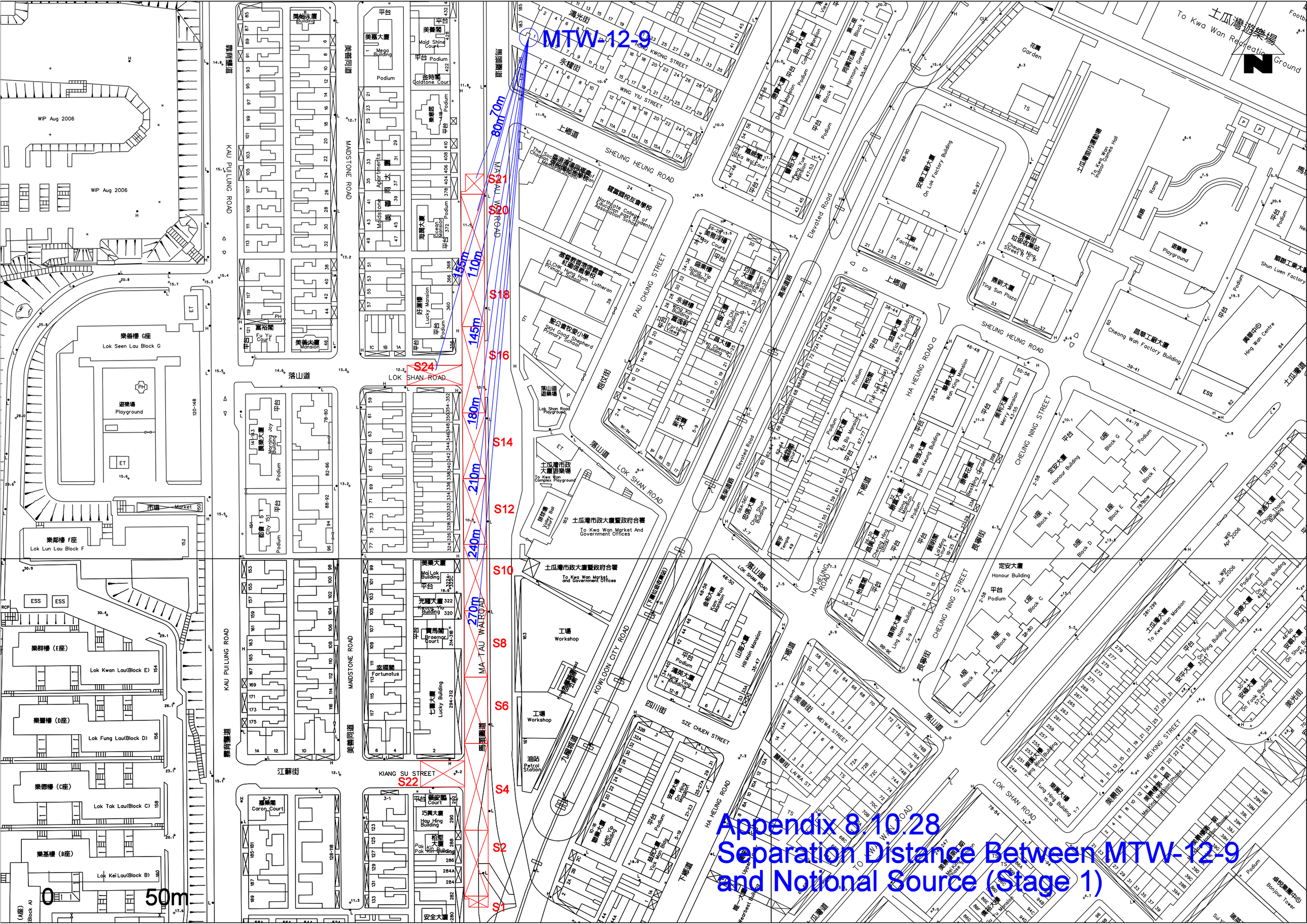
Appendix 8.10.24
Separation Distance Between MTW-12-4-1 and Notional Source (Stage 3, SSS (incl D&G Tunnels), TKW Garden and EKW Pier 15)


MTW-12-5
S21
S20
S18
S16
S24
S14
S12
S10
S8
S6
S4
S2
S1
S22
S42
285m
250m
215m
185m
155m
125m
95m
60m
28m
17m
50m
0
50m
KAU PUI LUNG ROAD
MAIDSTONE ROAD
MA TAU WAI ROAD
LOK SHAN ROAD
SHEUNG HEUNG ROAD
PAU CHUNG STREET
HA HEUNG ROAD
CHEUNG NING STREET
KOWLOON CITY ROAD
TO KWA WAN ROAD
KIANG SU STREET
CHI KIANG STREET
MEI KING STREET
樂善樓 G座
Lok Seen Lau Block G
樂鄰樓 F座
Lok Lun Lau Block F
樂群樓（E座）
Lok Kwan Lau(Block E)
樂置樓（D座）
Lok Fung Lau(Block D)
樂德樓（C座）
Lok Tak Lau(Block C)
樂基樓（B座）
Lok Kei Lau(Block B)
樂基樓（A座）
Lok Kei Lau (Block A)
樂留樓（H座）
Lok Chee Lau(Block H)
基道小學（九龍城）
Kei To Primary School (Kowloon City)
遊樂場
Playground
市場 Market
土瓜灣市政大廈暨政府合署
To Kwa Wan Market And Government Offices
土瓜灣市政大廈遊樂場
To Kwa Wan Playground
馬頭圍道／土瓜灣道公園
Ma Tau Wai Road / To Kwa Wan Road Garden
工場 Workshop
油站 Petrol Station
Appendix 8.10.25
Separation Distance Between MTW-12-5
and Notional Source (Stage 1)

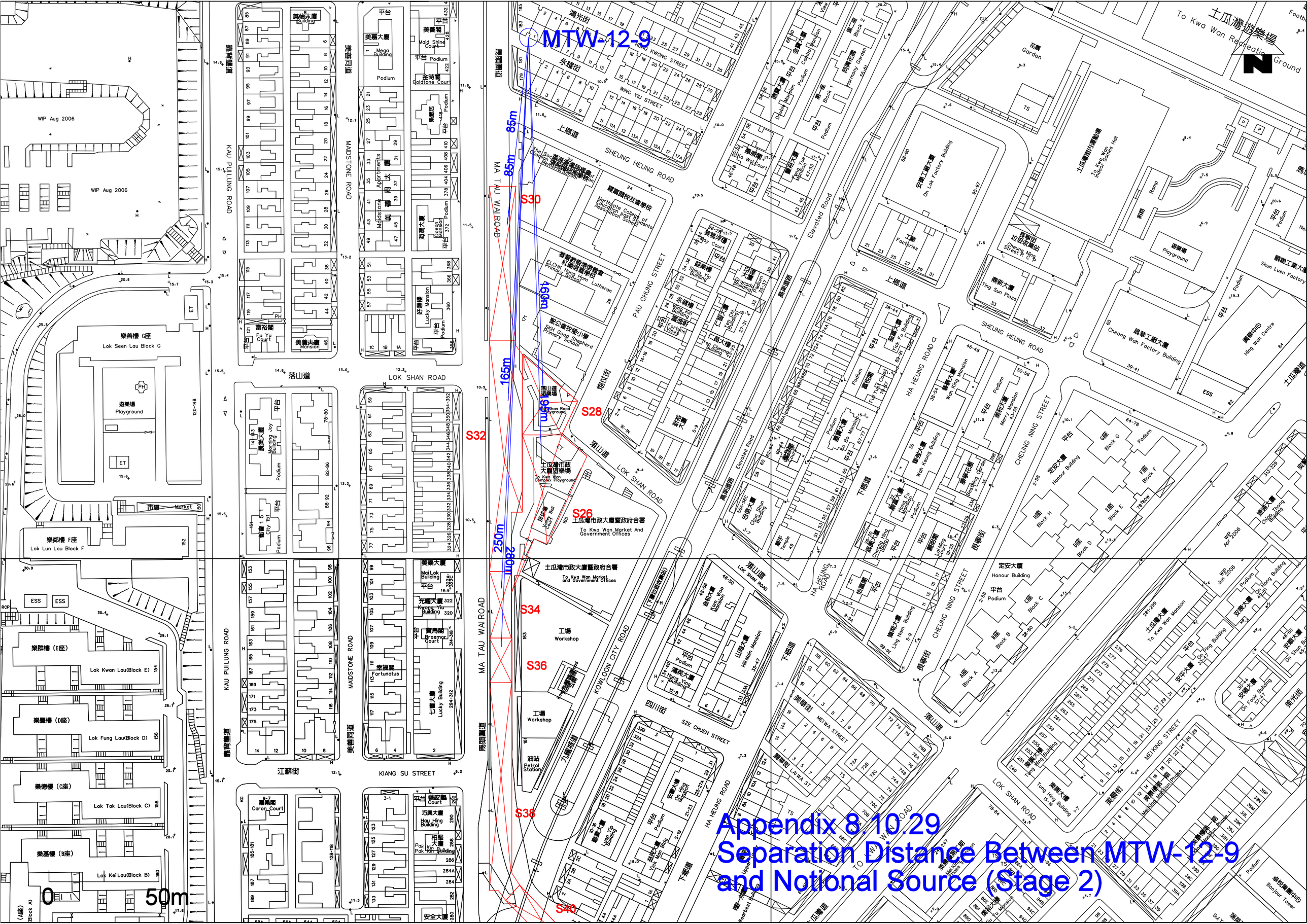

MTW-12-5
S30
S28
S32
S26
S34
S36
S38
S40
S42
290m
195m
240m
145m
125m
65m
35m
50m
0
50m
KAU PUI LUNG ROAD
MAIDSTONE ROAD
MA TAU WAI ROAD
SHEUNG HEUNG ROAD
PAU CHUNG STREET
LOK SHAN ROAD
KOWLOON CITY ROAD
HA HEUNG ROAD
TO KWA WAN ROAD
CHEUNG NING STREET
MEIKING STREET
KIANG SU STREET
CHI KIANG STREET
SZE CHUEN STREET
MEIWA STREET
Elevated Road
樂善樓 G座
Lok Seen Lau Block G
樂鄰樓 F座
Lok Lun Lau Block F
樂群樓（E座）
Lok Kwan Lau(Block E)
樂豐樓（D座）
Lok Fung Lau(Block D)
樂德樓（C座）
Lok Tak Lau(Block C)
樂基樓（B座）
Lok Kei Lau(Block B)
樂業樓（A座）
Lok Kei Lau (Block A)
樂留樓（H座）
Lok Chee Lau(Block H)
基道小學（九龍城）
Kei To Primary School (Kowloon City)
遊樂場
Playground
市場
Market
土瓜灣市政大廈暨政府合署
To Kwa Wan Market And Government Offices
土瓜灣市政大廈遊樂場
To Kwa Wan Complex Playground
馬頭圍道／土瓜灣道公園
Ma Tau Wai Road / To Kwa Wan Road Garden
工場
Workshop
油站
Petrol Station
Appendix 8.10.26
Separation Distance Between MTW-12-5
and Notional Source (Stage 2)



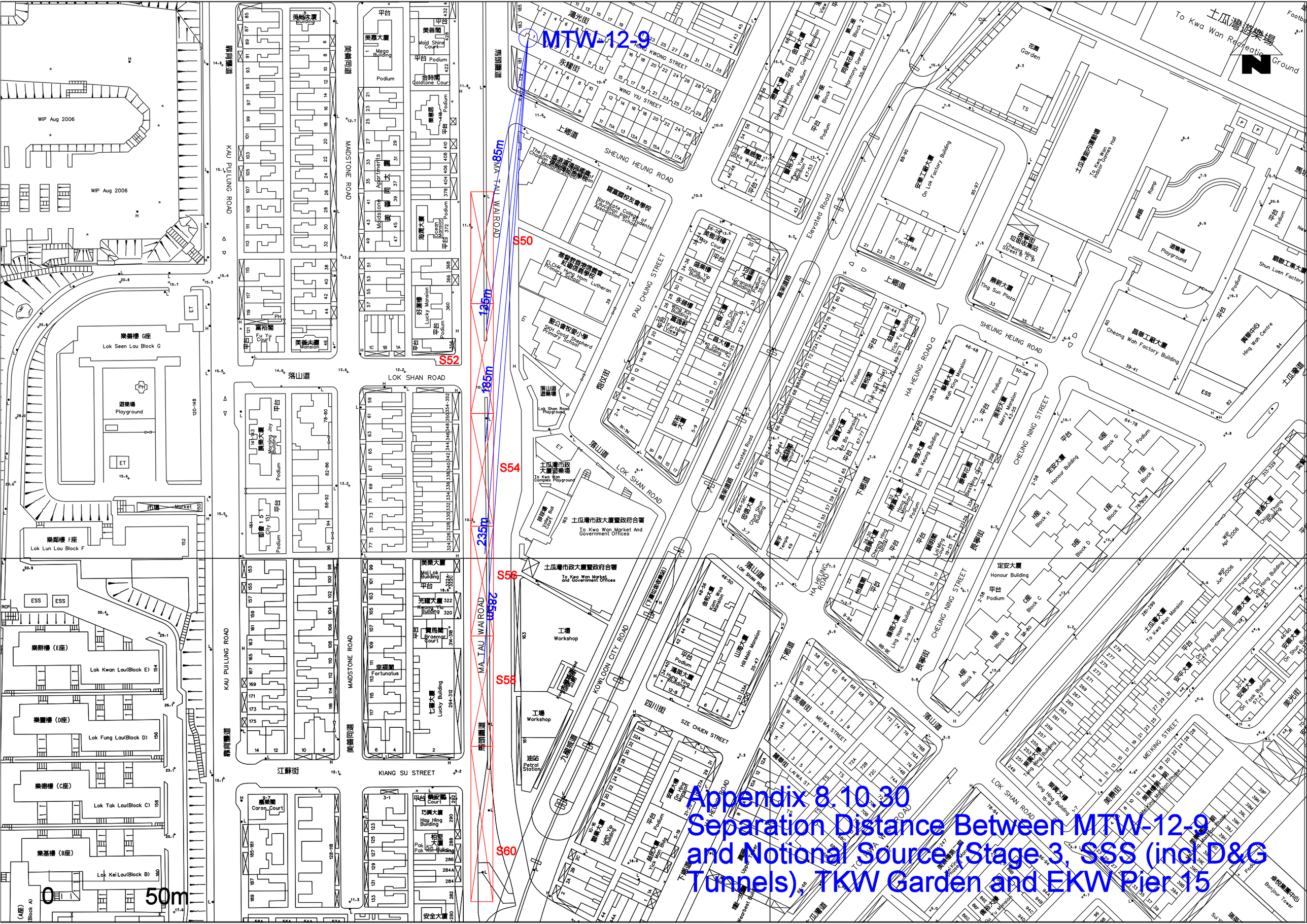
Appendix 8.10.27
Separation Distance Between MTW-12-5 and Notional Source (Stage 3, SSS (incl. D&G Tunnels), TKW Garden and EKW Pier 15)



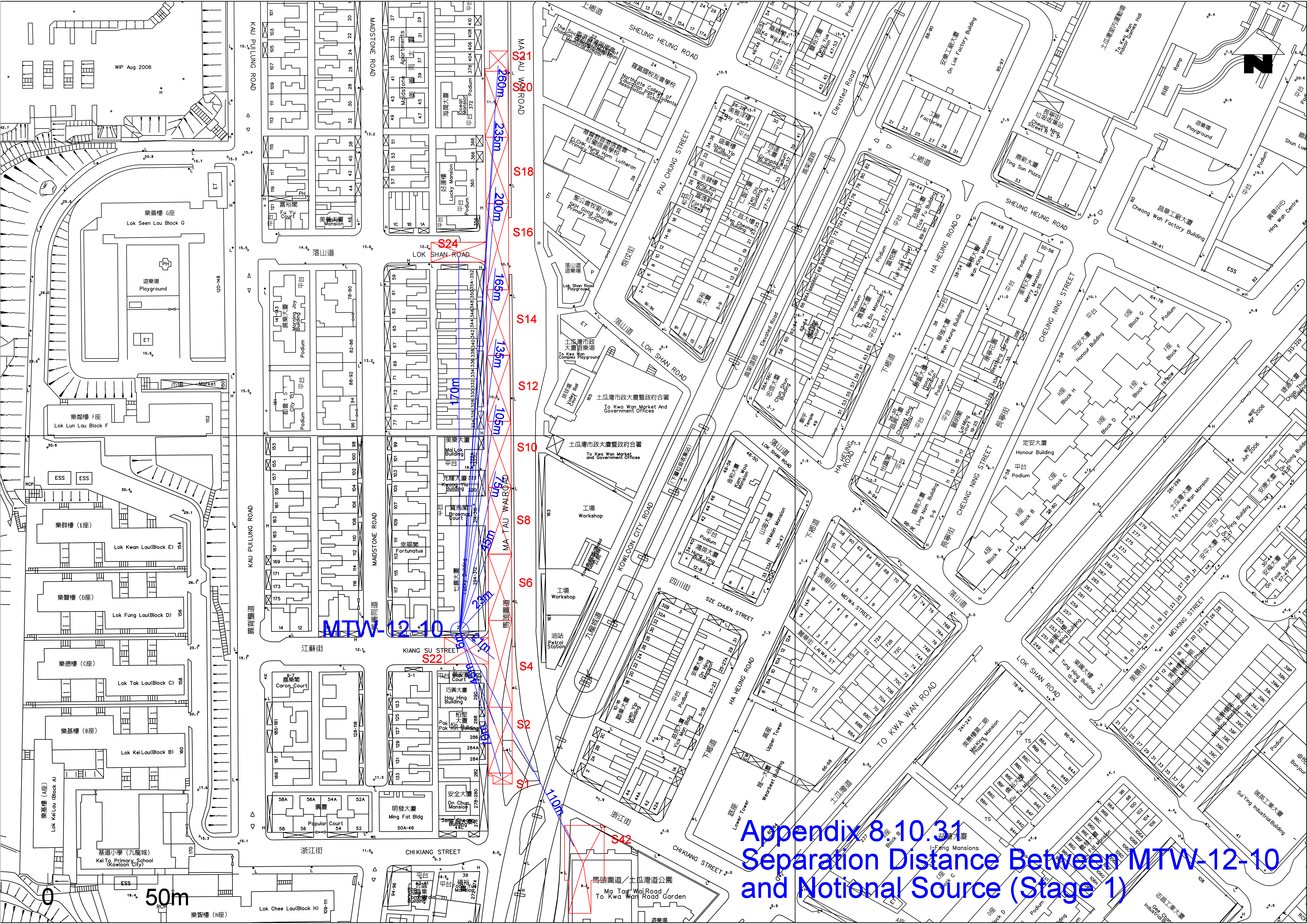
Appendix 8.10.28
Separation Distance Between MTW-12-9
and Notional Source (Stage 1)



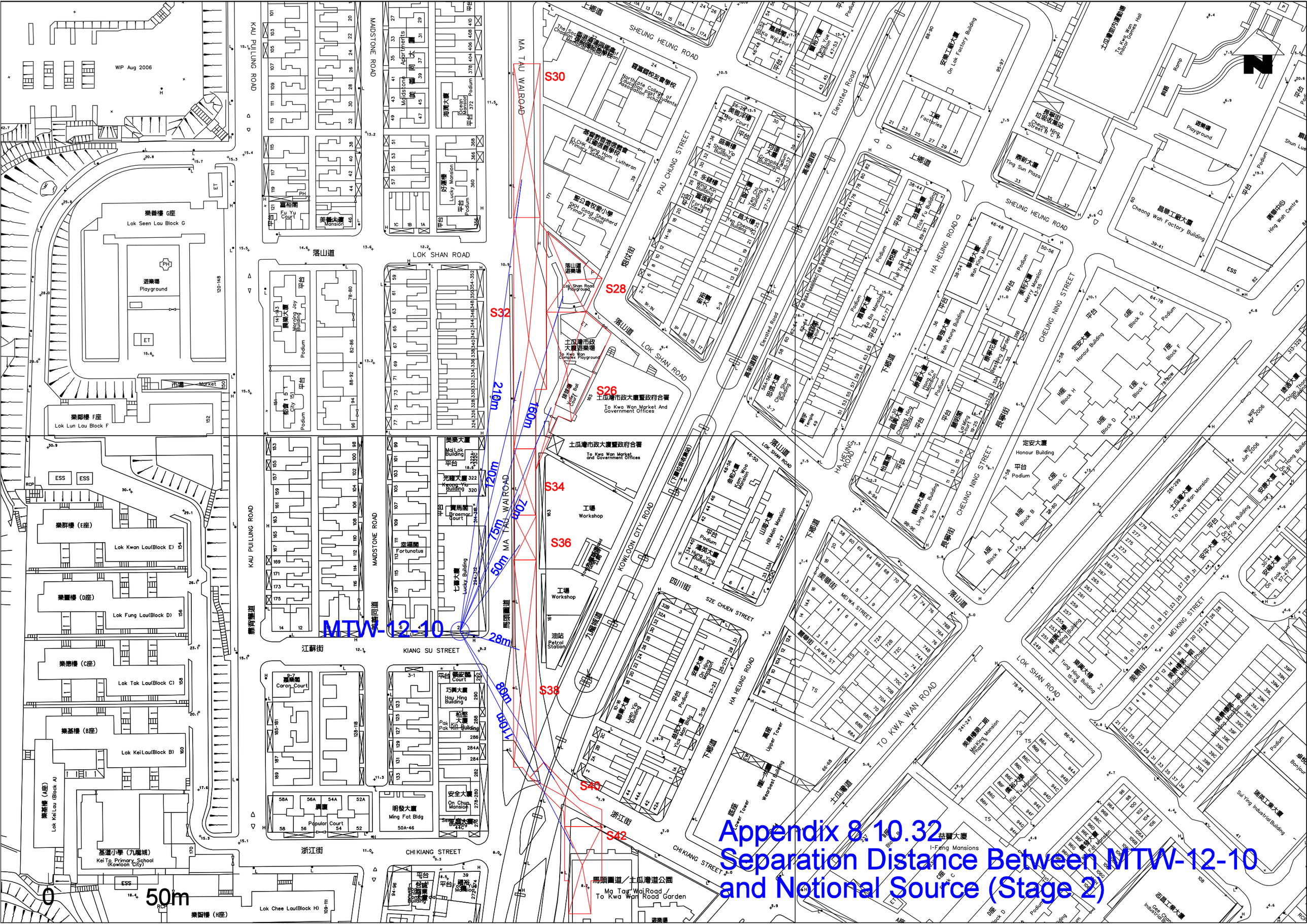
Appendix 8.10.29
Separation Distance Between MTW-12-9
and Notional Source (Stage 2)



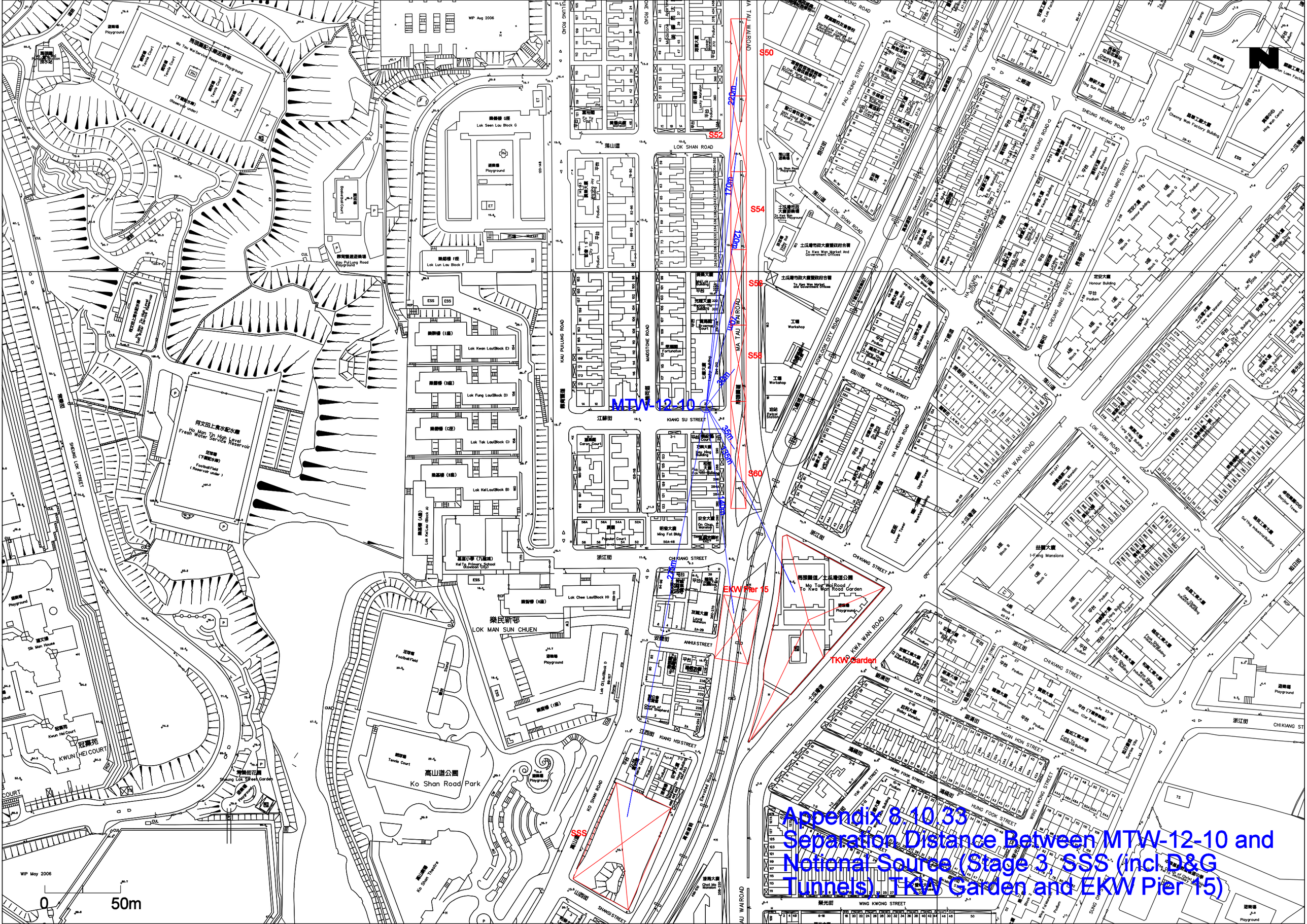
Appendix 8.10.30
Separation Distance Between MTW-12-9 and Notional Source (Stage 3, SSS (incl D&G Tunnels), TKW Garden and EKW Pier 15

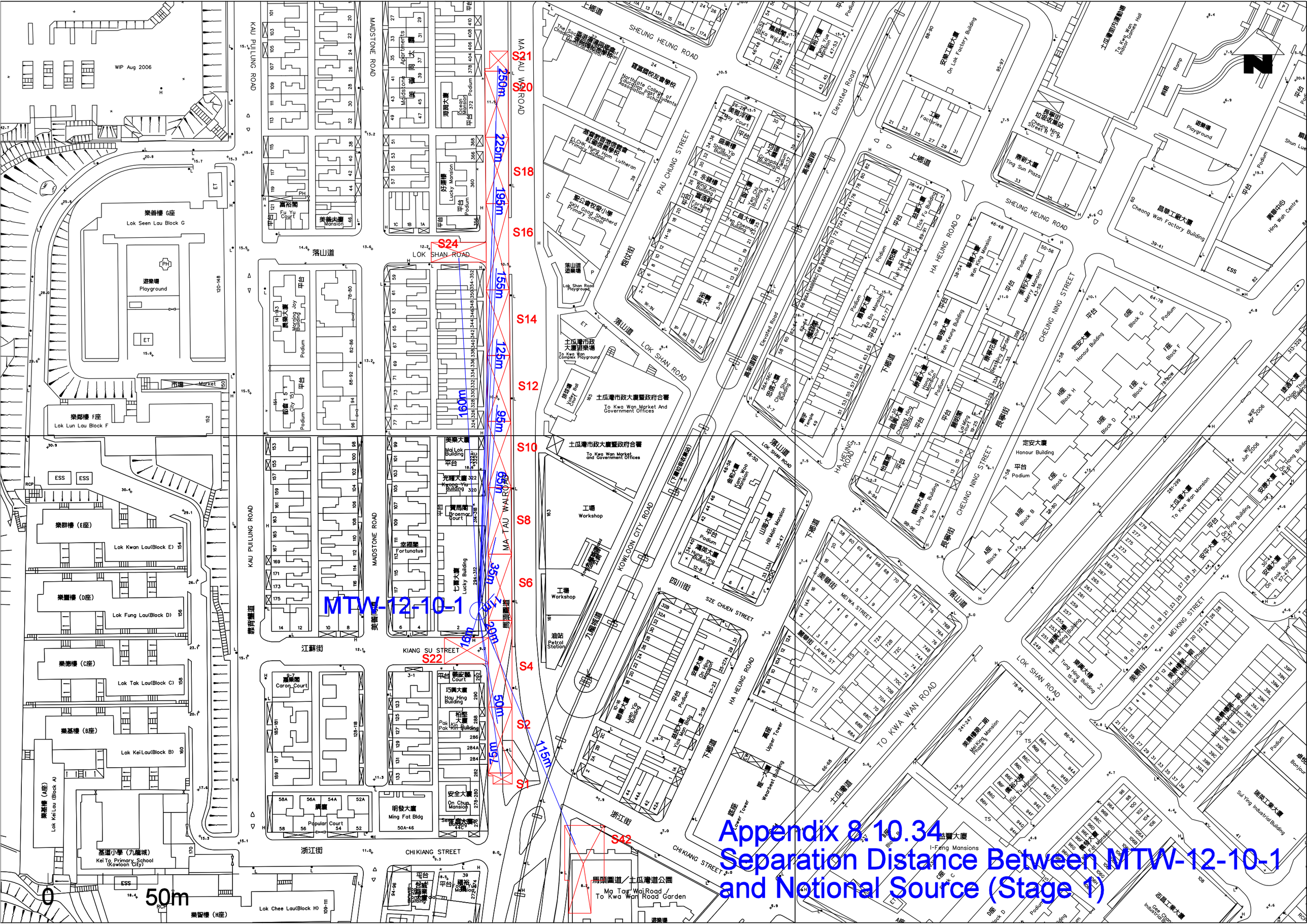


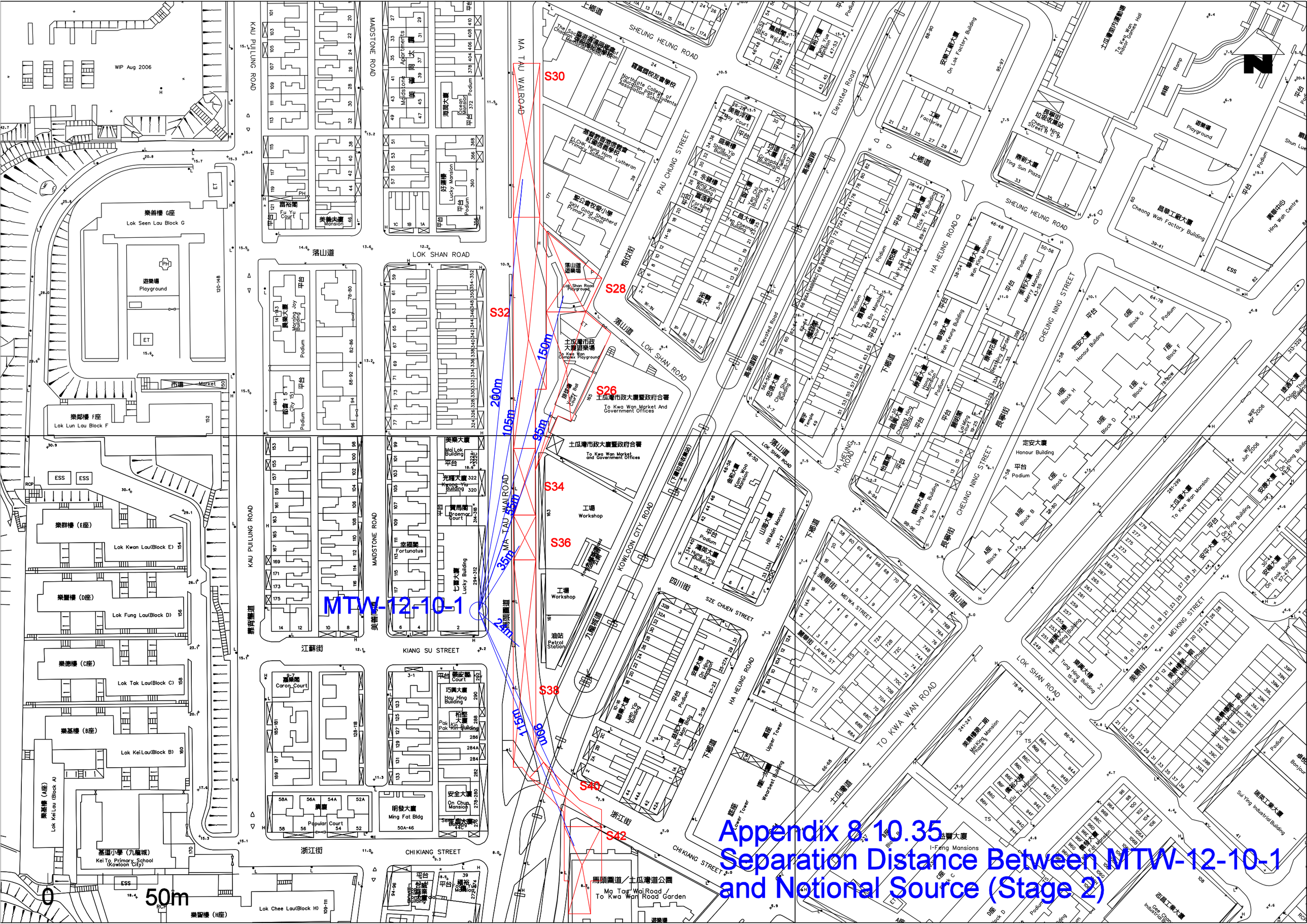
Appendix 8.10.31
Separation Distance Between MTW-12-10 and Notional Source (Stage 1)



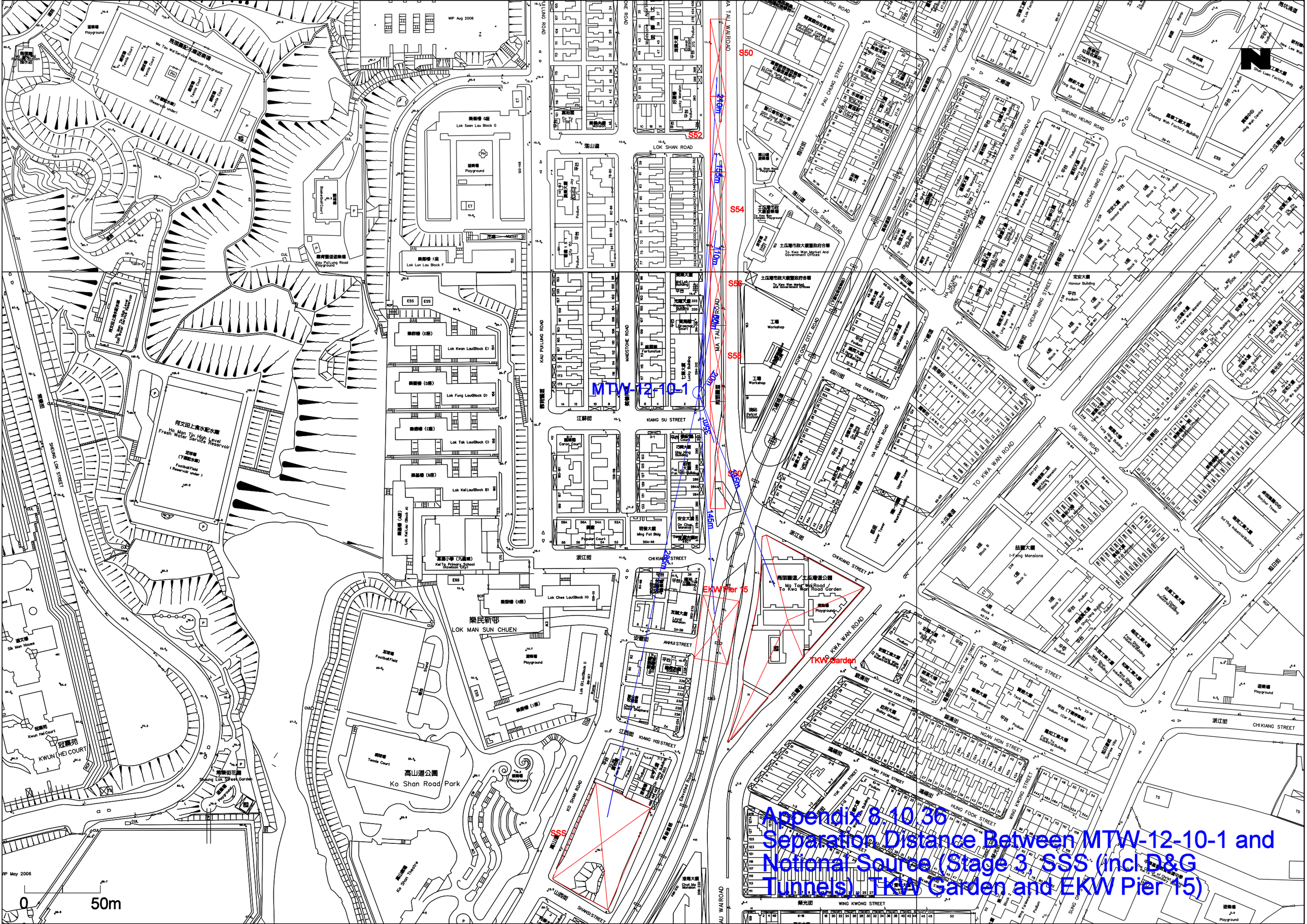
Appendix 8.10.32 Separation Distance Between MTW-12-10 and Notional Source (Stage 2)


MTW-12-10
S50
S52
S54
S56
S58
S60
SSS
EKW Pier 15
TKW Garden
220m
170m
120m
80m
35m
25m
0
50m
LOK SHAN ROAD
KAU PU LUNG ROAD
MADSTONE ROAD
KIANG SU STREET
CHI KIANG STREET
ANHUI STREET
KIANG HSI STREET
KO SHAN ROAD
SHANSI STREET
HA TAU WAI ROAD
TO KWA WAN ROAD
KWA WAN ROAD
PAU CHUNG STREET
SHEUNG HEUNG ROAD
HA HEUNG ROAD
CHEUNG NING STREET
KOWLOON CITY ROAD
SZE CHUEN STREET
MEIYA STREET
MEIKUNG STREET
NGAN HON STREET
HUNG FOOK STREET
WING KWONG STREET
SHEUNG LOK STREET
LOK MAN SUN CHUEN
樂民新邨
高山道公園
Ko Shan Road Park
冠寶苑
KWUN HEI COURT
何文田上食水配水庫
Ho Man Tin High Level Fresh Water Service Reservoir
馬頭圍配水庫遊樂場
Ma Tau Wai Service Reservoir Playground
樂善樓 G座
Lok Seen Lau Block G
樂麟樓 F座
Lok Lun Lau Block F
樂群樓 (E座)
Lok Kwan Lau(Block E)
樂豐樓 (D座)
Lok Fung Lau(Block D)
樂德樓 (C座)
Lok Tak Lau(Block C)
樂基樓 (B座)
Lok Kei Lau(Block B)
樂民樓 (A座)
Lok Kai Lau (Block A)
樂智樓 (H座)
Lok Chee Lau(Block H)
樂安樓 (I座)
Lok Oi Lau(Block I)
樂樂樓 (J座)
Lok Lok Lau(Block J)
樂樂樓 (1座)
Lok Lok Lau (Block 1)
樂樂樓 (2座)
Lok Lok Lau (Block 2)
樂樂樓 (3座)
Lok Lok Lau (Block 3)
樂樂樓 (4座)
Lok Lok Lau (Block 4)
樂樂樓 (5座)
Lok Lok Lau (Block 5)
樂樂樓

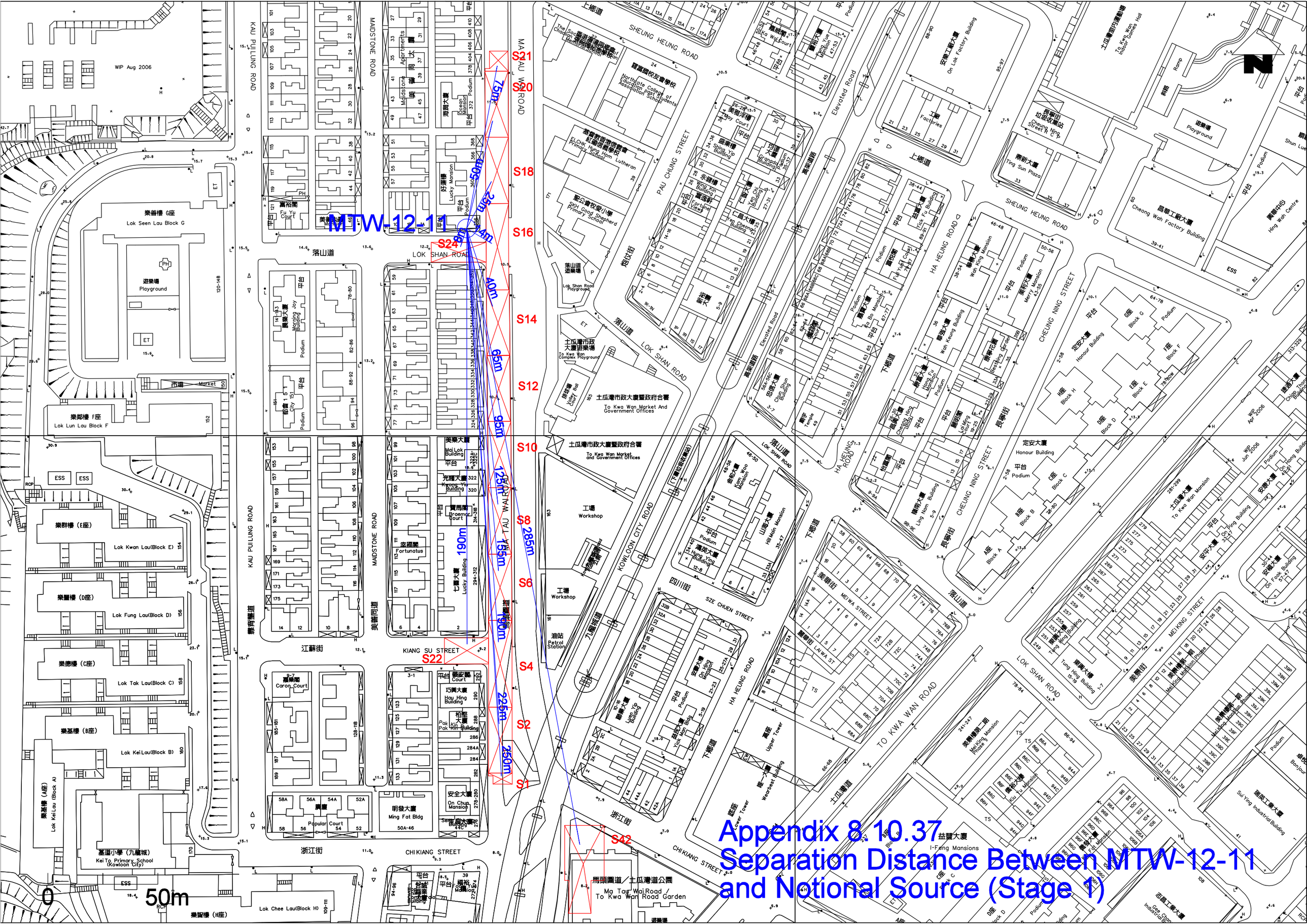

MTW-12-10-1
S21
S20
S18
S16
S14
S12
S10
S8
S6
S4
S2
S1
S24
S22
S42
250m
225m
195m
155m
125m
95m
65m
35m
20m
19m
50m
45m
115m
0
50m
KAU PUI LUNG ROAD
MAIDSTONE ROAD
MA TAU WAI ROAD
SHEUNG HEUNG ROAD
PAU CHUNG STREET
LOK SHAN ROAD
HA HEUNG ROAD
CHEUNG NING STREET
KOWLOON CITY ROAD
SZE CHUEN STREET
MEIWA STREET
MEIKING STREET
TO KWA WAN ROAD
CHI KIANG STREET
KIANG SU STREET
Elevated Road
樂善樓 G座
Lok Seen Lau Block G
樂鄰樓 F座
Lok Lun Lau Block F
樂群樓 (E座)
Lok Kwan Lau(Block E)
樂豐樓 (D座)
Lok Fung Lau(Block D)
樂德樓 (C座)
Lok Tak Lau(Block C)
樂基樓 (B座)
Lok Kei Lau(Block B)
樂基樓 (A座)
Lok Kei Lau (Block A)
樂留樓 (H座)
Lok Chee Lau(Block H)
基道小學 (九龍城)
Kei To Primary School (Kowloon City)
遊樂場
Playground
市場
Market
土瓜灣市政大廈暨政府合署
To Kwa Wan Market And Government Offices
土瓜灣市政大廈遊樂場
To Kwa Wan Complex Playground
馬頭圍道／土瓜灣道公園
Ma Tau Wai Road / To Kwa Wan Road Garden
工場
Workshop
油站
Petrol Station
Appendix 8.10.34
Separation Distance Between MTW-12-10-1
and Notional Source (Stage 1)

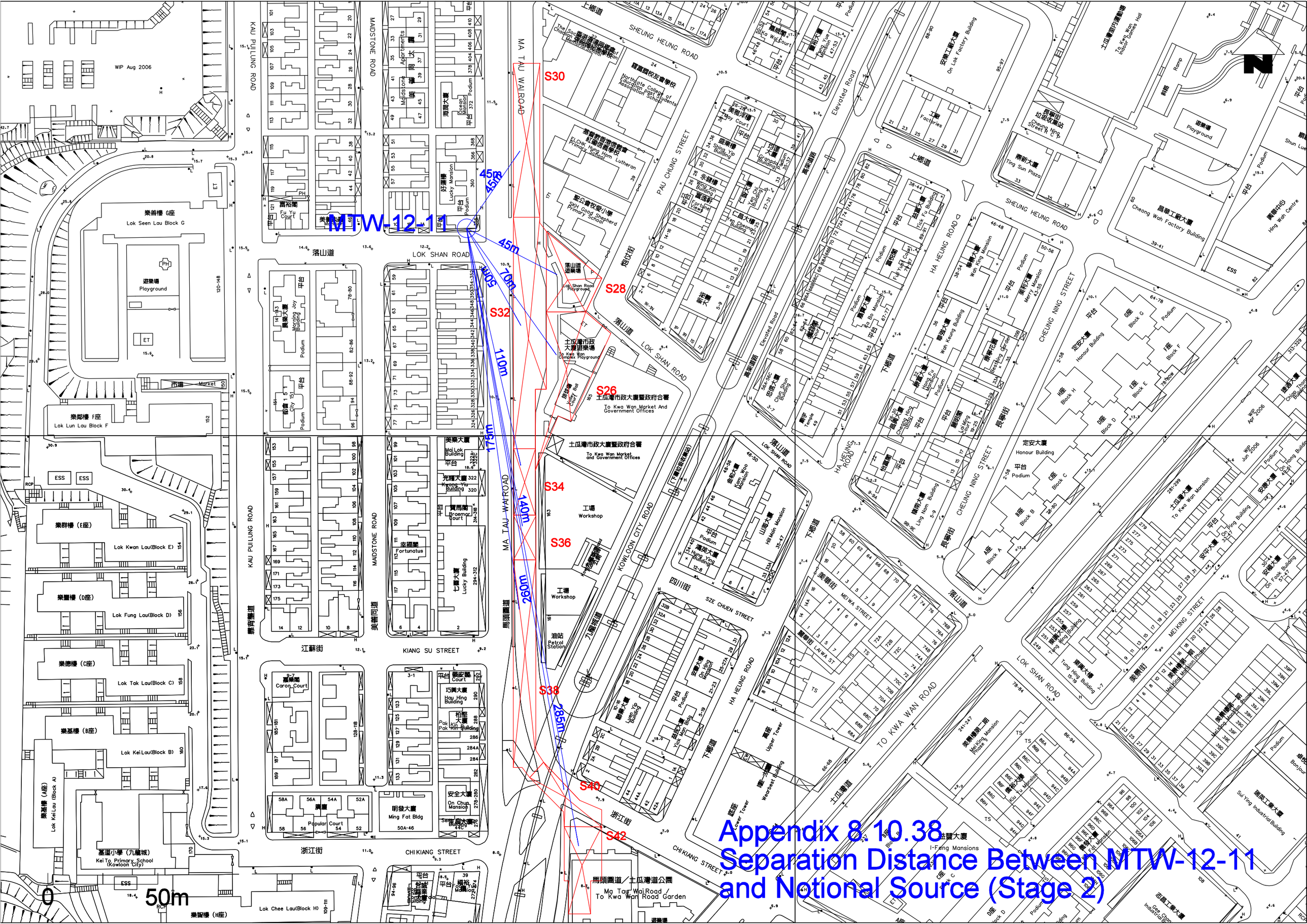


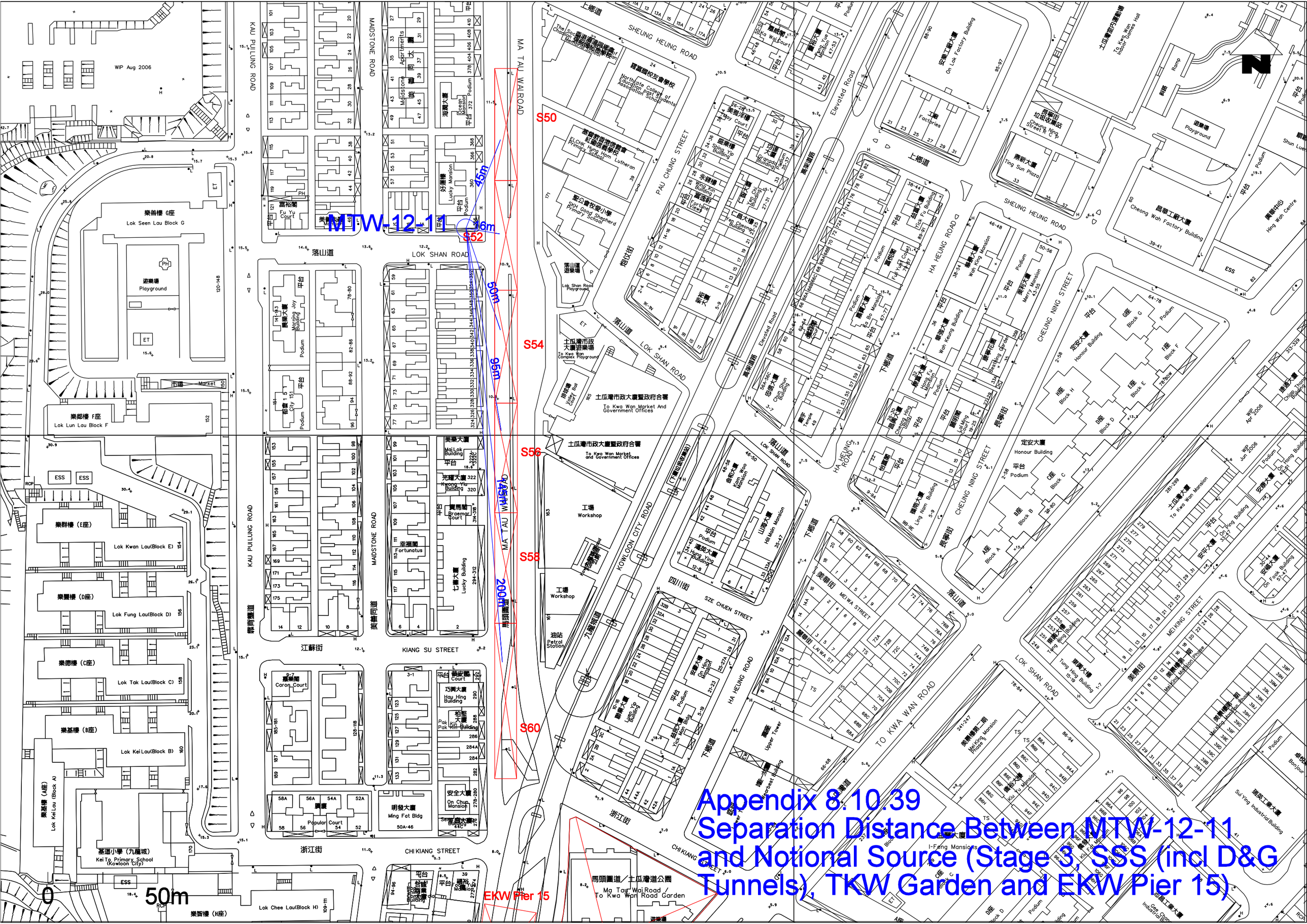
Appendix 8.10.35
Separation Distance Between MTW-12-10-1 and Notional Source (Stage 2)



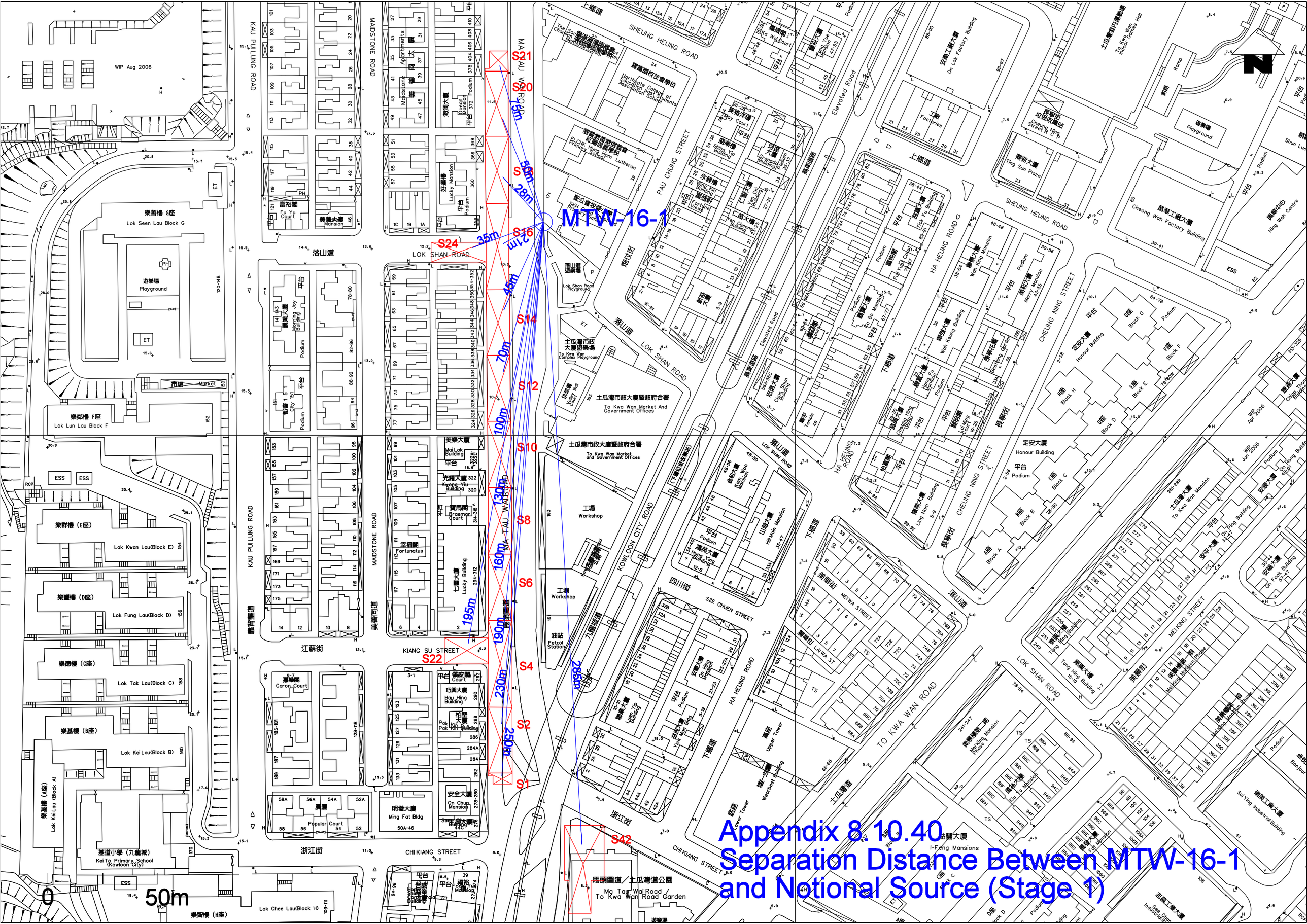
Appendix 8.10.36
Separation Distance Between MTW-12-10-1 and Notional Source (Stage 3, SSS (incl D&G Tunnels), TKW Garden and EKW Pier 15)

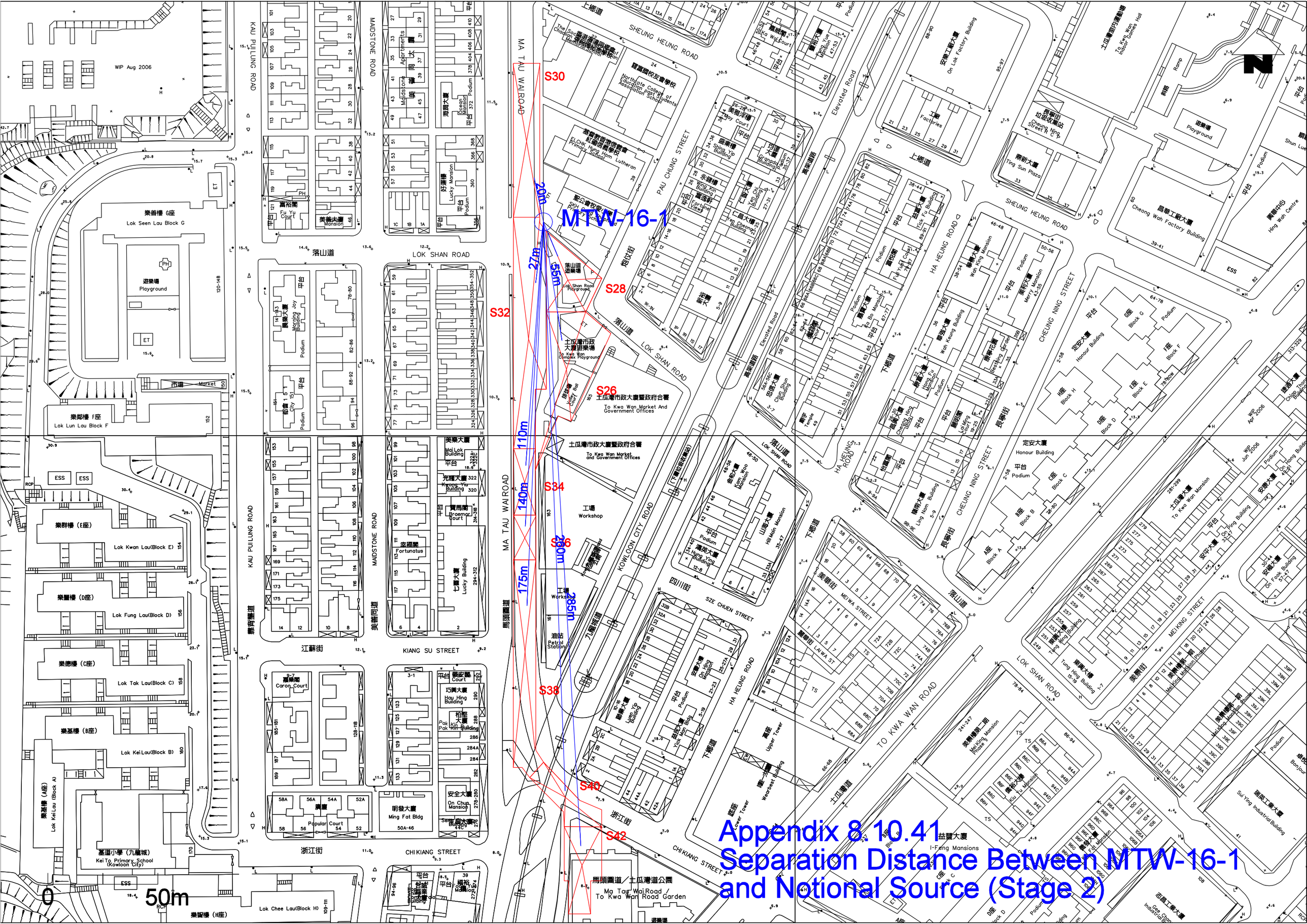

MTW-12-11
S21
S20
S18
S16
S24
S14
S12
S10
S8
S6
S4
S22
S2
S1
S42
75m
50m
25m
40m
65m
95m
125m
155m
190m
285m
190m
225m
250m
0
50m
KAU PUI LUNG ROAD
MAIDSTONE ROAD
MA TAU WAI ROAD
SHEUNG HEUNG ROAD
PAU CHUNG STREET
LOK SHAN ROAD
KOWLOON CITY ROAD
HA HEUNG ROAD
TO KWA WAN ROAD
CHEUNG NING STREET
MEIKING STREET
KIANG SU STREET
CHI KIANG STREET
SZE CHUEN STREET
MEIWA STREET
LAI WA ST
Elevated Road
WIP Aug 2006
樂善樓 G座
Lok Seen Lau Block G
遊樂場
Playground
市場 Market
樂鄰樓 F座
Lok Lun Lau Block F
樂群樓（E座）
Lok Kwan Lau(Block E)
樂豐樓（D座）
Lok Fung Lau(Block D)
樂德樓（C座）
Lok Tak Lau(Block C)
樂基樓（B座）
Lok Kei Lau(Block B)
樂基樓（A座）
Lok Kei Lau (Block A)
樂智樓（H座）
Lok Chee Lau(Block H)
基道小學（九龍城）
Kei To Primary School (Kowloon City)
土瓜灣市政大廈暨政府合署
To Kwa Wan Market And Government Offices
土瓜灣市政大廈遊樂場
To Kwa Wan Complex Playground
馬頭圍道／土瓜灣道公園
Ma Tau Wai Road / To Kwa Wan Road Garden
工場
Workshop
油站
Petrol Station
定安大廈
Honour Building
益豐大廈
I-Feng Mansions
Appendix 8.10.37
Separation Distance Between MTW-12-11
and Notional Source (Stage 1)


MTW-12-11
S30
S28
S32
S26
S34
S36
S38
S40
S42
45m
45m
50m
70m
110m
175m
140m
260m
285m
0
50m
KAU PUI LUNG ROAD
MAIDSTONE ROAD
MA TAU WAI ROAD
SHEUNG HEUNG ROAD
PAU CHUNG STREET
LOK SHAN ROAD
KOWLOON CITY ROAD
HA HEUNG ROAD
TO KWA WAN ROAD
CHEUNG NING STREET
MEIKING STREET
KIANG SU STREET
CHI KIANG STREET
SZE CHUEN STREET
MEIWA STREET
Elevated Road
WIP Aug 2006
樂善樓 G座
Lok Seen Lau Block G
遊樂場
Playground
市場 Market
樂鄰樓 F座
Lok Lun Lau Block F
樂群樓 (E座)
Lok Kwan Lau(Block E)
樂豐樓 (D座)
Lok Fung Lau(Block D)
樂德樓 (C座)
Lok Tak Lau(Block C)
樂基樓 (B座)
Lok Kei Lau(Block B)
樂基樓 (A座)
Lok Kei Lau (Block A)
基道小學 (九龍城)
Kei To Primary School (Kowloon City)
樂留樓 (H座)
Lok Chee Lau(Block H)
土瓜灣市政大廈暨政府合署
To Kwa Wan Market And Government Offices
土瓜灣市政大廈遊樂場
To Kwa Wan Complex Playground
馬頭圍道／土瓜灣道公園
Ma Tau Wai Road / To Kwa Wan Road Garden
工場
Workshop
油站
Petrol Station
Appendix 8.10.38
Separation Distance Between MTW-12-11
and Notional Source (Stage 2)

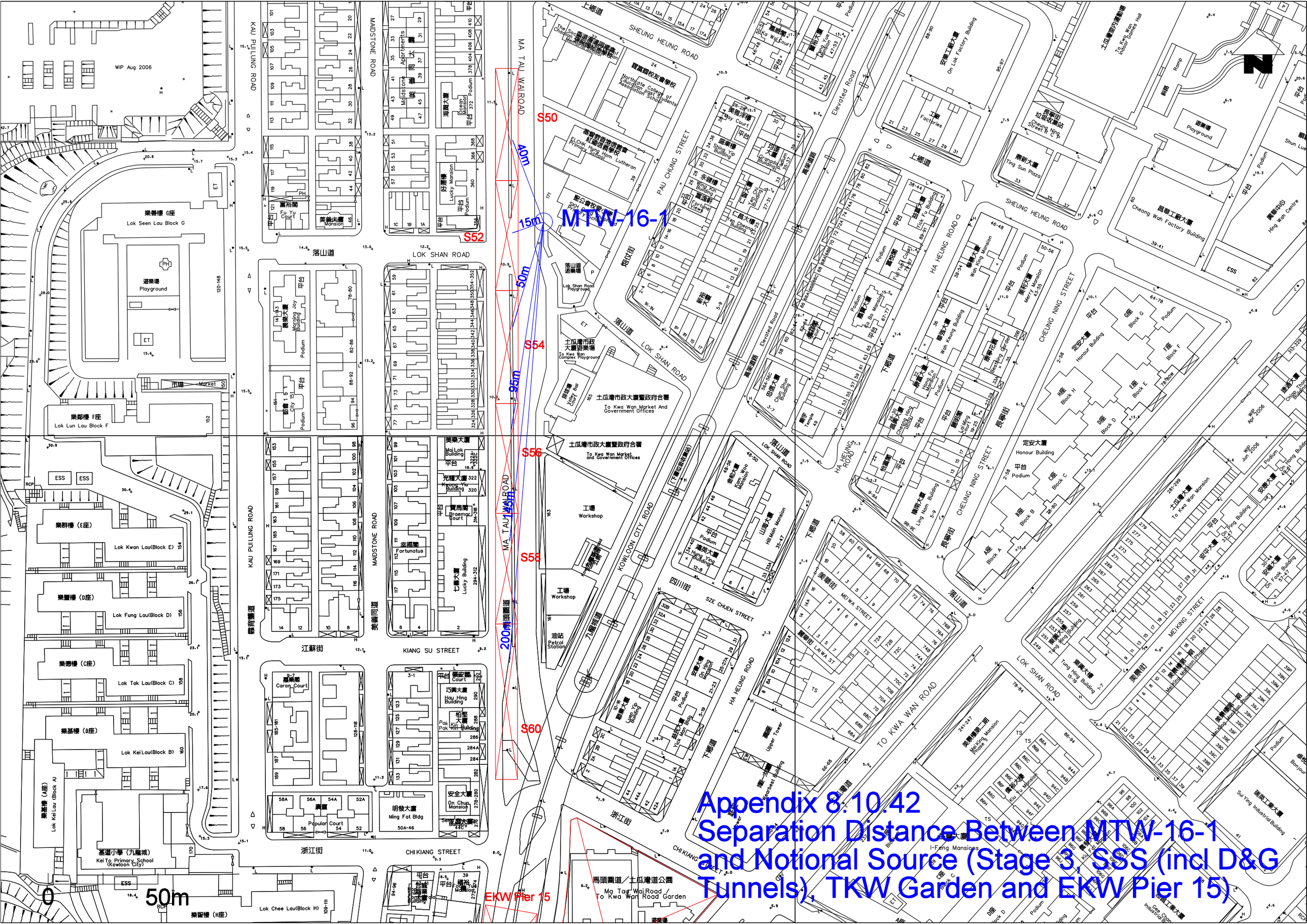


Appendix 8.10.39
Separation Distance Between MTW-12-11 and Notional Source (Stage 3, SSS (incl D&G Tunnels), TKW Garden and EKW Pier 15)

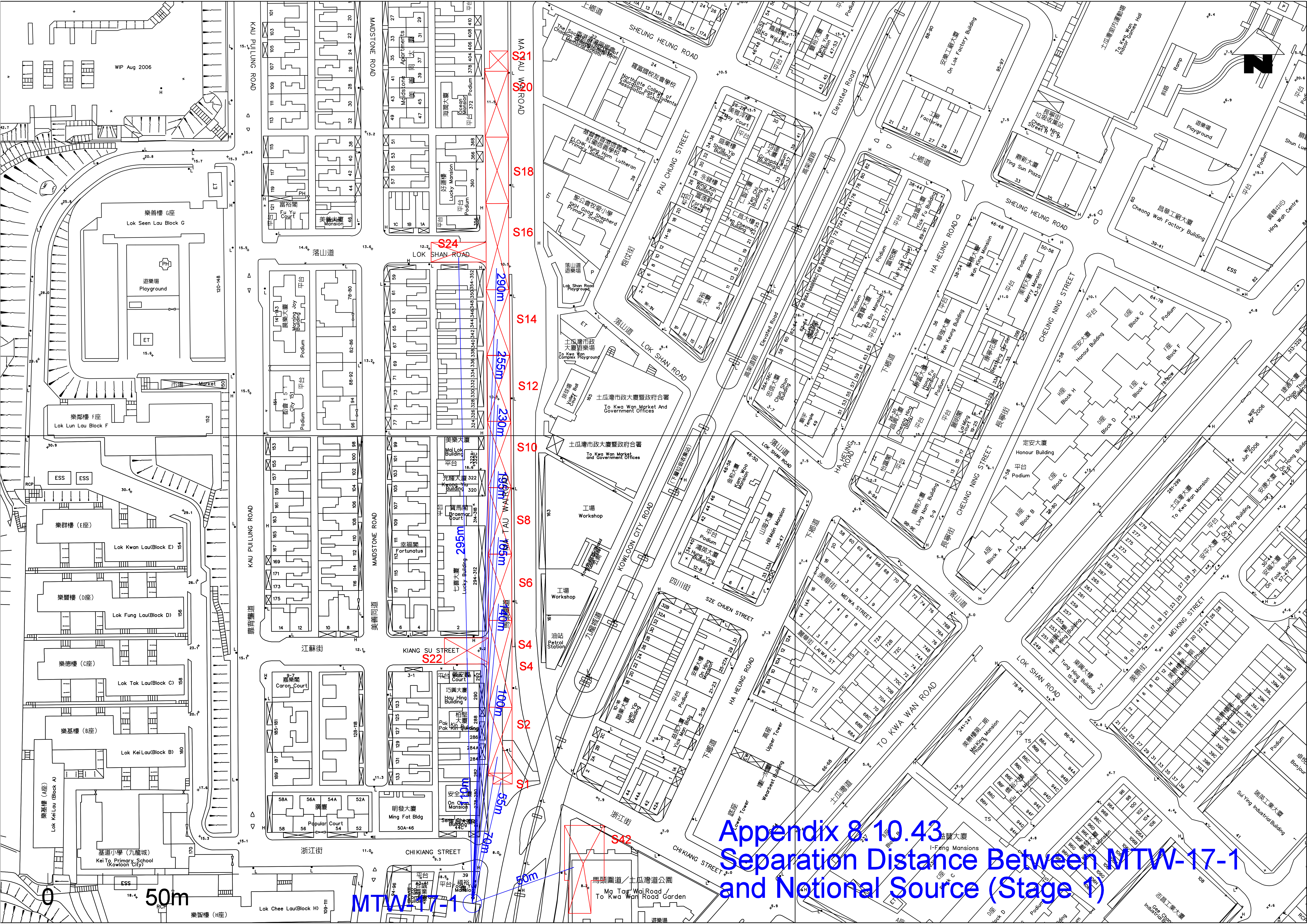

MTW-16-1
S1
S2
S4
S6
S8
S10
S12
S14
S16
S20
S21
S22
S24
S42
75m
50m
28m
35m
21m
45m
70m
100m
130m
160m
195m
190m
230m
285m
250m
0
50m
SHEUNG HEUNG ROAD
PAU CHUNG STREET
LOK SHAN ROAD
HA HEUNG ROAD
CHEUNG NING STREET
KOWLOON CITY ROAD
SZE CHUEN STREET
TO KWA WAN ROAD
CHI KIANG STREET
KIANG SU STREET
MAIDSTONE ROAD
KAU PUI LUNG ROAD
MA TAU WAI ROAD
Elevated Road
Lok Seen Lau Block G
Lok Lun Lau Block F
Lok Kwan Lau(Block E)
Lok Fung Lau(Block D)
Lok Tak Lau(Block C)
Lok Kei Lau(Block B)
Lok Kei Lau (Block A)
Lok Chee Lau(Block H)
Kei To Primary School (Kowloon City)
To Kwa Wan Complex Playground
To Kwa Wan Market And Government Offices
Ma Tau Wai Road / To Kwa Wan Road Garden
Workshop
Petrol Station
Playground
Market
Lok Shan Road Playground
Cheung Wah Factory Building
Ting Sun Plaza
Cheung Ning Street R C P
To Kwa Wan Indoor Games Hall
Hing Wah Centre
Shing Yip Building
Grandeur Building
Yen Cheong Building
Fortune Views
Wah King Mansion
Merry Mansion
Wah Keung Building
Wah Fung Building
Ling Nam Building
Hill Mansion
Hung Yung Building
Upper Tower
Lower Tower
Wearbest Building
Yick Kin Building
Yuen Yip Building
Caron Court
Popular Court
Ming Fat Bldg
Lucky Mansion
Fortunatus
Braemar Court
Mai Lok Building
Kwong Yiu Building
Honour Building
Block A
Block B
Block C
Block D
Block E
Block F
Block G
Block H
I-Feng Mansions
Appendix 8.10.40
Separation Distance Between MTW-16-1
and Notional Source (Stage 1)



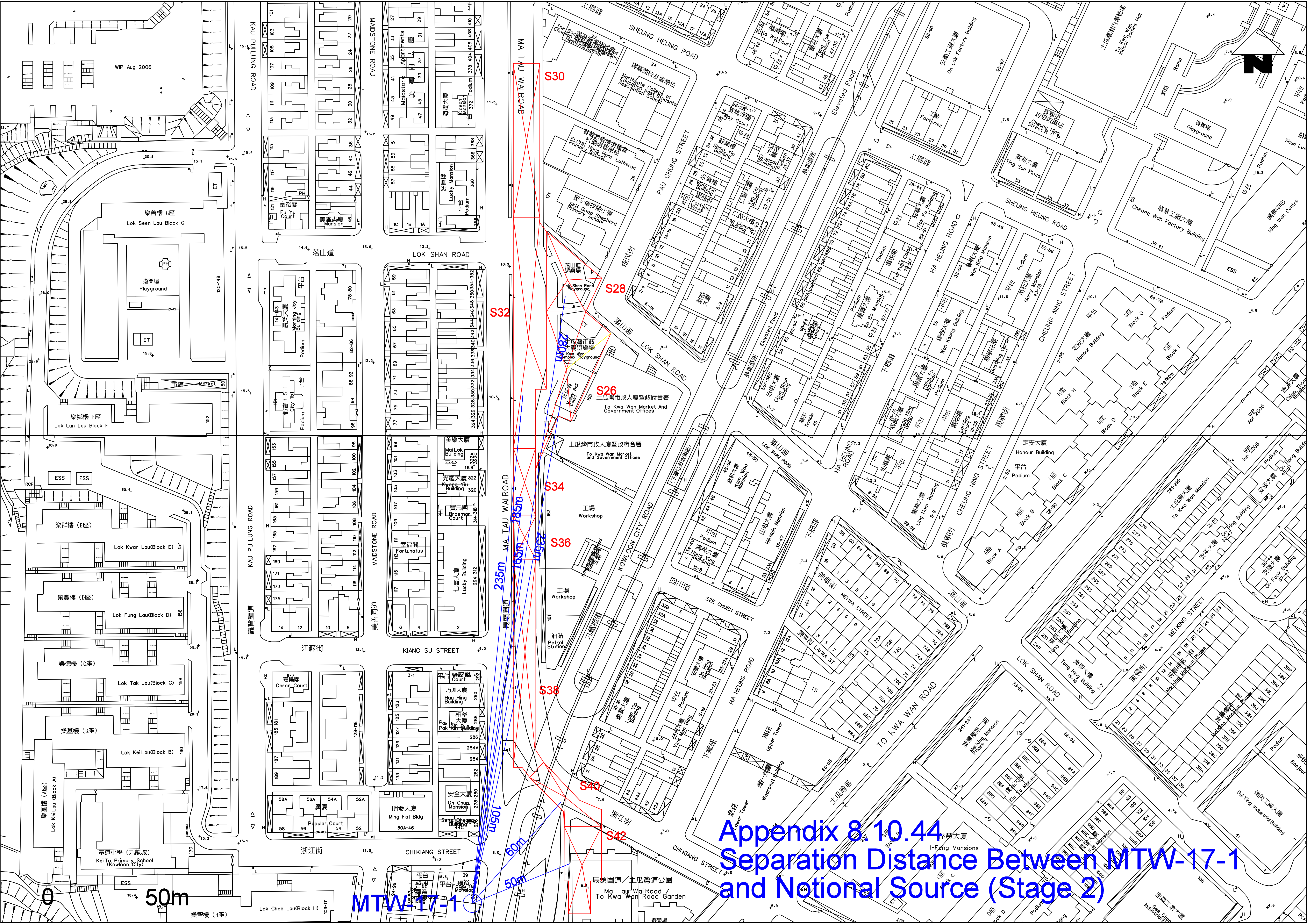
Appendix 8.10.41
Separation Distance Between MTW-16-1 and Notional Source (Stage 2)



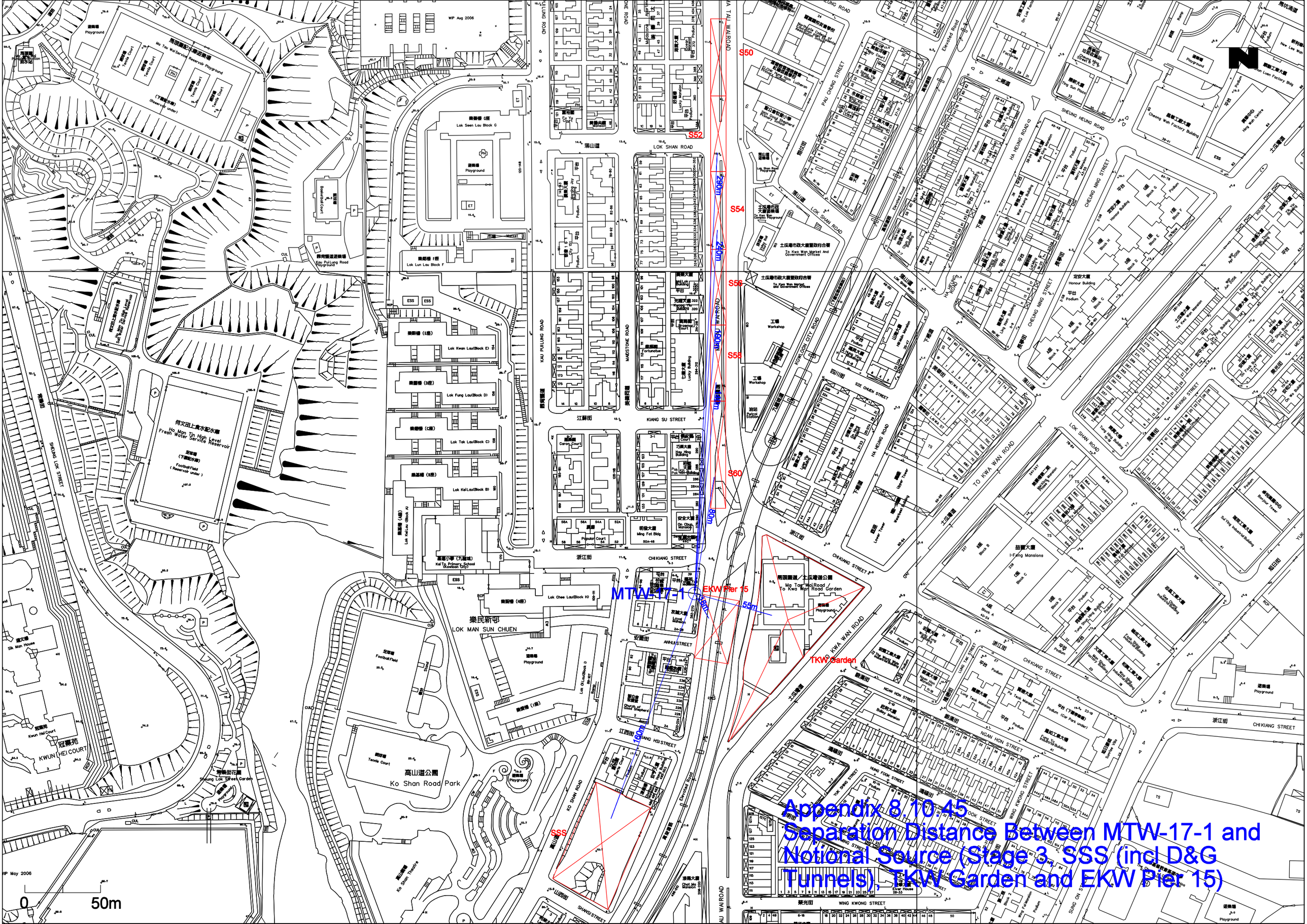
Appendix 8.10.42
Separation Distance Between MTW-16-1 and Notional Source (Stage 3, SSS (incl D&G Tunnels), TKW Garden and EKW Pier 15)



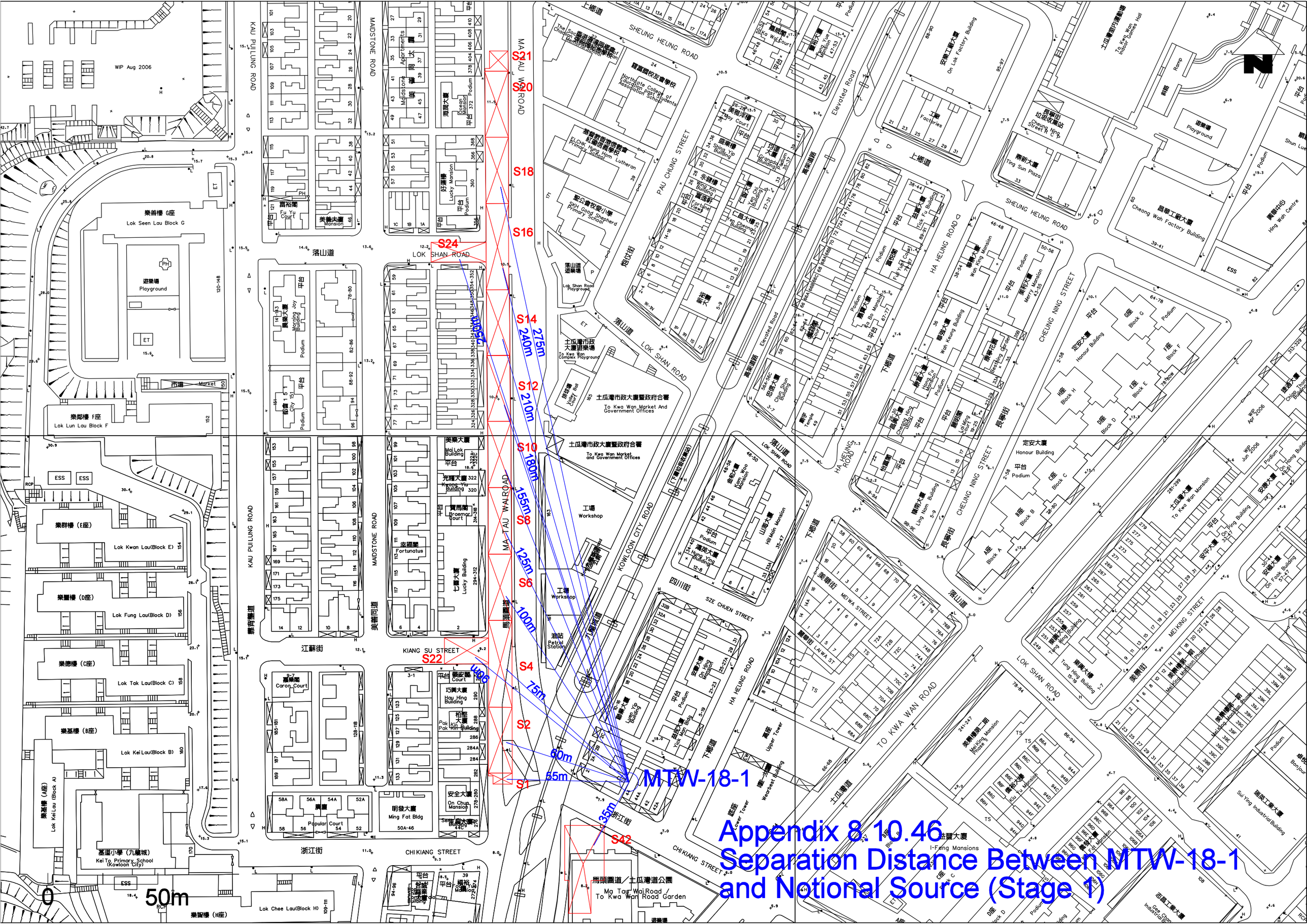
Appendix 8.10.43 Separation Distance Between MTW-17-1 and Notional Source (Stage 1)

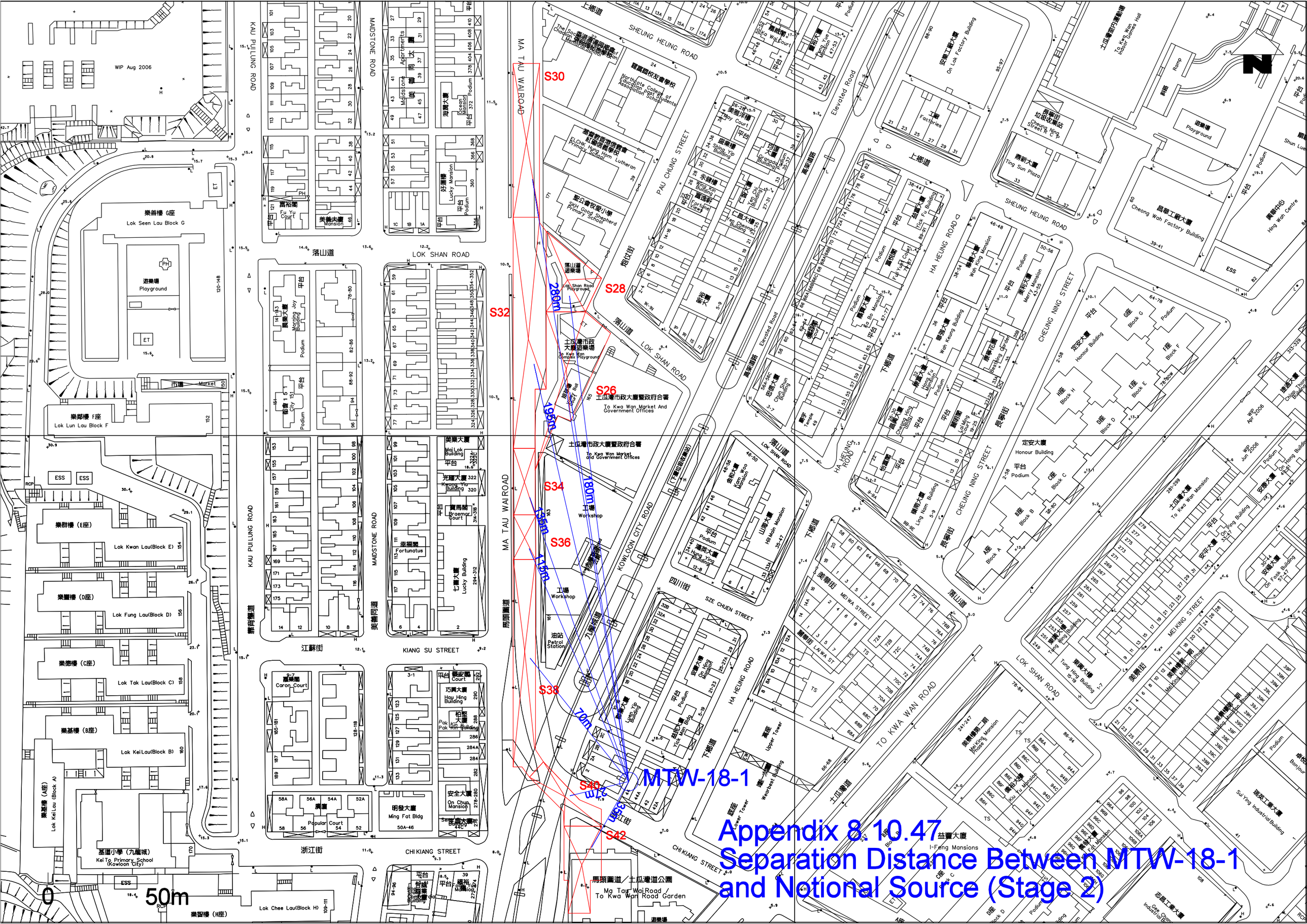


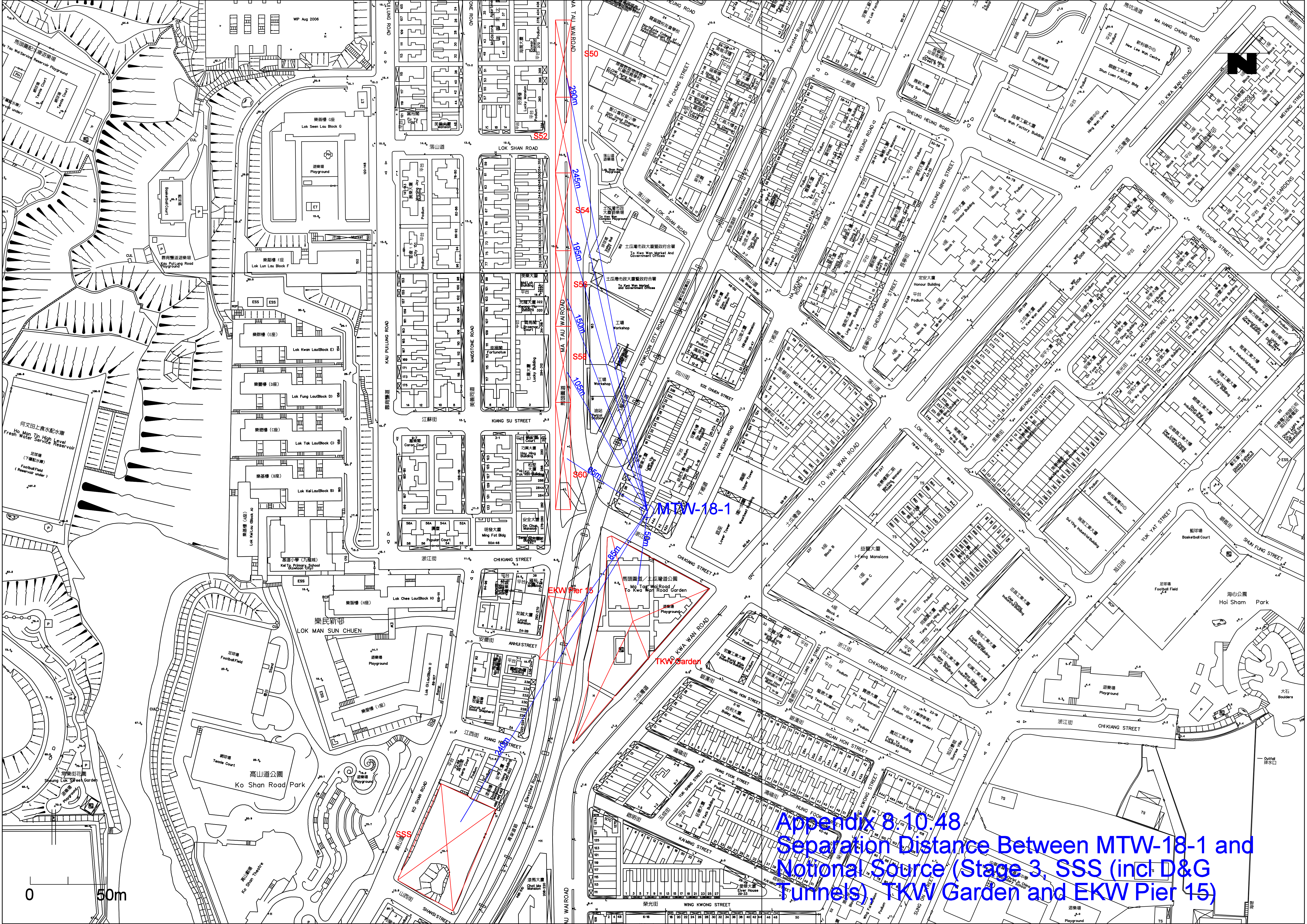
Appendix 8.10.44
Separation Distance Between MTW-17-1 and Notional Source (Stage 2)



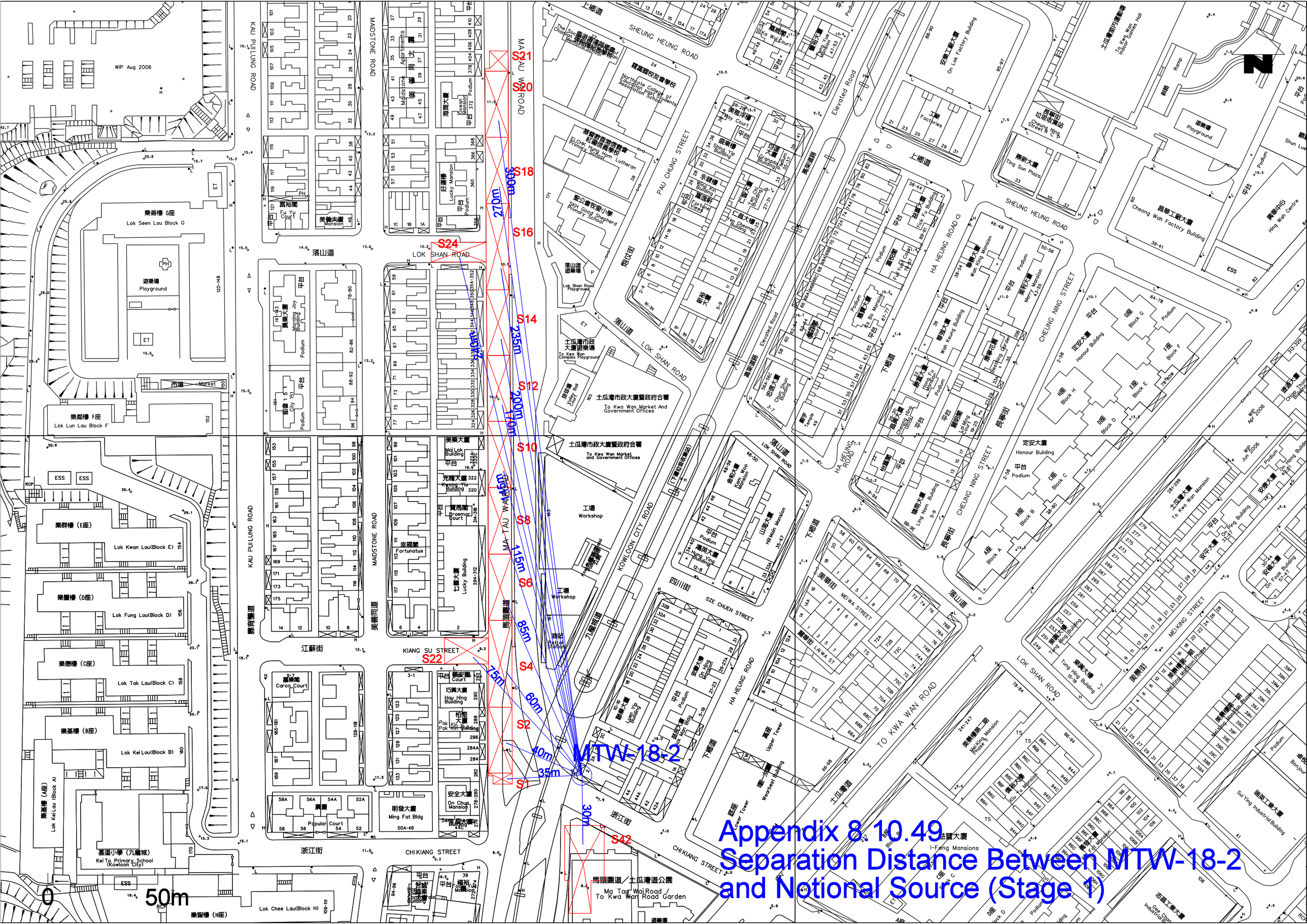
Appendix 8.10.45
Separation Distance Between MTW-17-1 and Notional Source (Stage 3, SSS (incl D&G Tunnels), TKW Garden and EKW Pier 15)

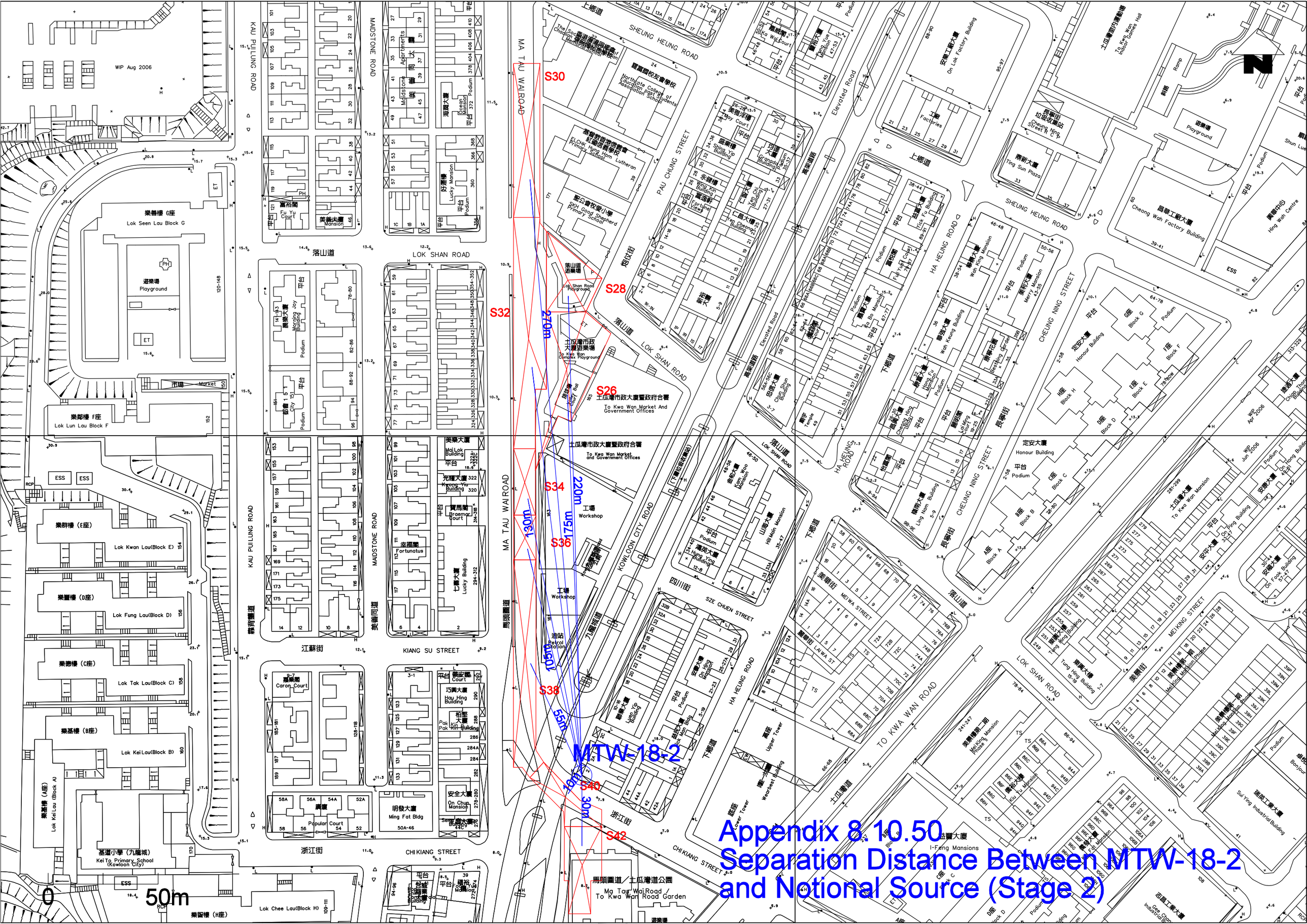

S21
S20
S18
S16
S24
S14
S12
S10
S8
S6
S4
S2
S1
S22
S42
275m
240m
210m
180m
155m
125m
100m
75m
60m
55m
35m
MTW-18-1
0
50m
Appendix 8.10.46
Separation Distance Between MTW-18-1
and Notional Source (Stage 1)

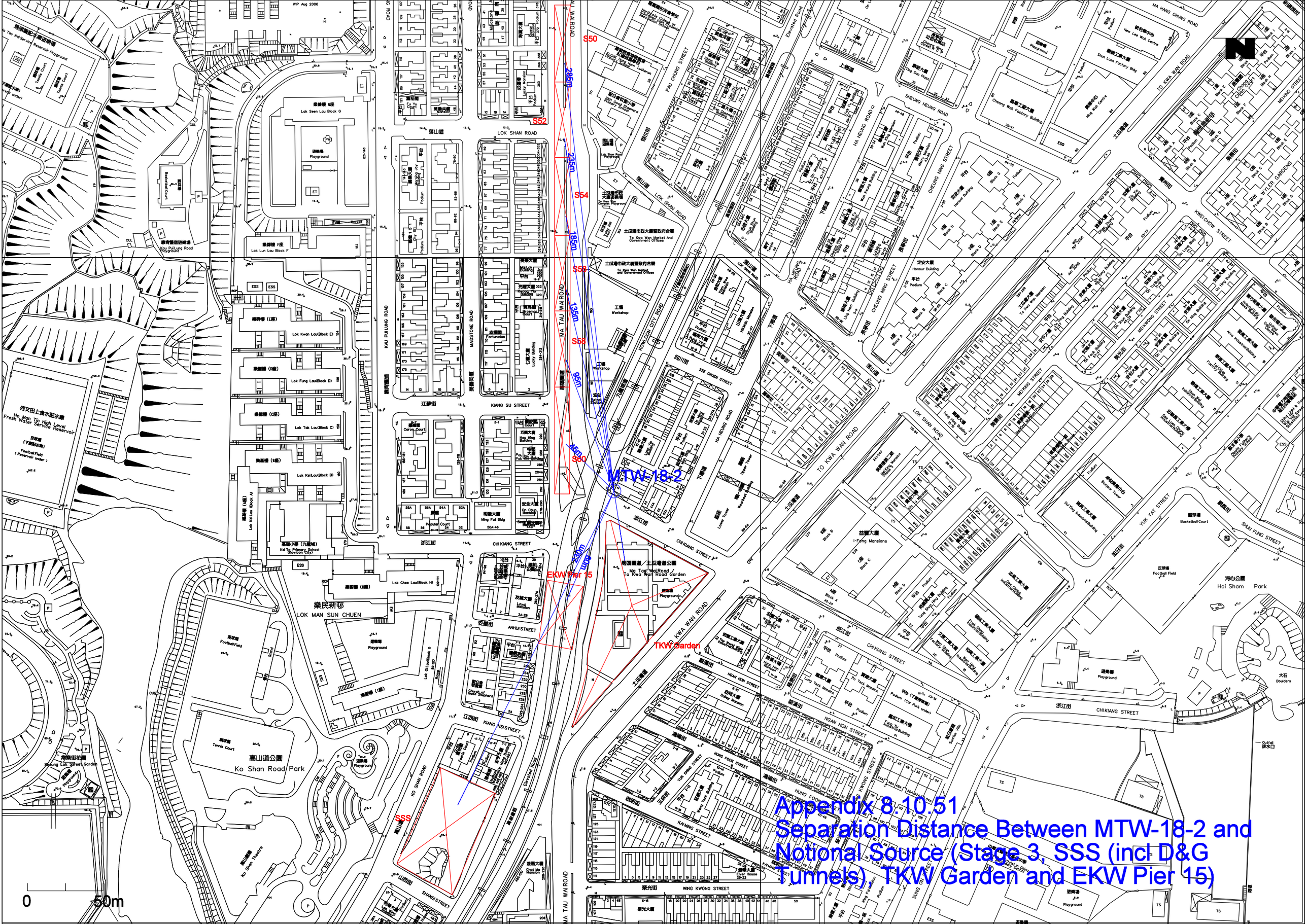

S30
S28
S32
S26
S34
S36
S38
S40
S42
280m
195m
180m
135m
115m
70m
MTW-18-1
0
50m
KAU PUI LUNG ROAD
MAIDSTONE ROAD
MA TAU WAI ROAD
SHEUNG HEUNG ROAD
PAU CHUNG STREET
LOK SHAN ROAD
KOWLOON CITY ROAD
HA HEUNG ROAD
CHEUNG NING STREET
TO KWA WAN ROAD
MEI KING STREET
KIANG SU STREET
CHI KIANG STREET
Elevated Road
WIP Aug 2006
WIP Jun 2006
WIP Apr 2006
樂善樓 G座
Lok Seen Lau Block G
樂郡樓 F座
Lok Lun Lau Block F
樂群樓 (E座)
Lok Kwan Lau(Block E)
樂豐樓 (D座)
Lok Fung Lau(Block D)
樂德樓 (C座)
Lok Tak Lau(Block C)
樂基樓 (B座)
Lok Kei Lau(Block B)
樂基樓 (A座)
Lok Kei Lau (Block A)
樂智樓 (H座)
Lok Chee Lau(Block H)
遊樂場
Playground
市場
Market
基道小學 (九龍城)
Kei To Primary School (Kowloon City)
聖公會牧愛小學
SKH Good Shepherd Primary School
落山道遊樂場
Lok Shan Road Playground
土瓜灣市政大廈遊樂場
To Kwa Wan Complex Playground
土瓜灣市政大廈暨政府合署
To Kwa Wan Market And Government Offices
工場
Workshop
油站
Petrol Station
九龍城道
馬頭圍道／土瓜灣道公園
Ma Tau Wai Road / To Kwa Wan Road Garden
Appendix 8.10.47
Separation Distance Between MTW-18-1
and Notional Source (Stage 2)



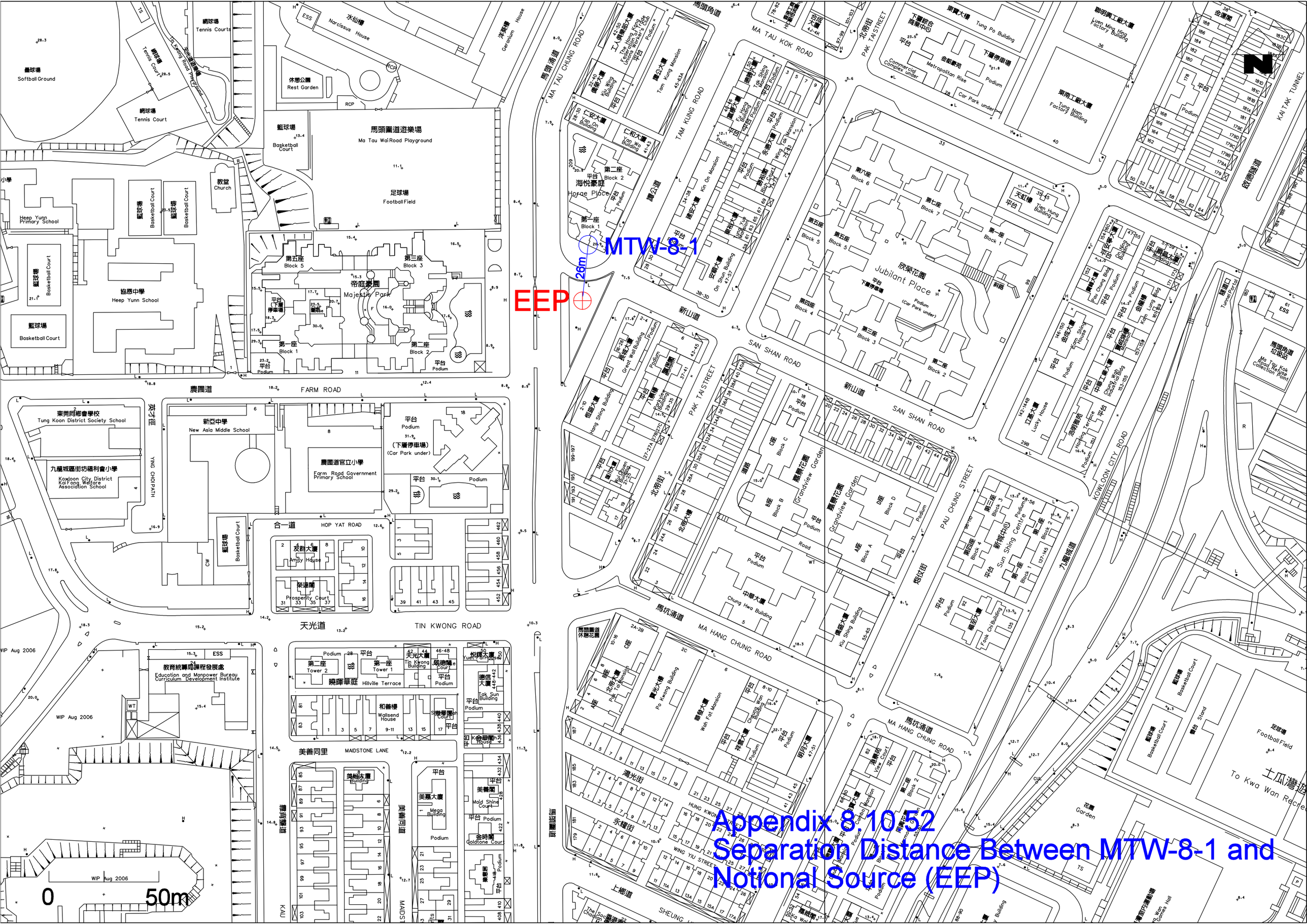
Appendix 8.10.48
Separation Distance Between MTW-18-1 and Notional Source (Stage 3, SSS (incl D&G Tunnels), TKW Garden and EKW Pier 15)

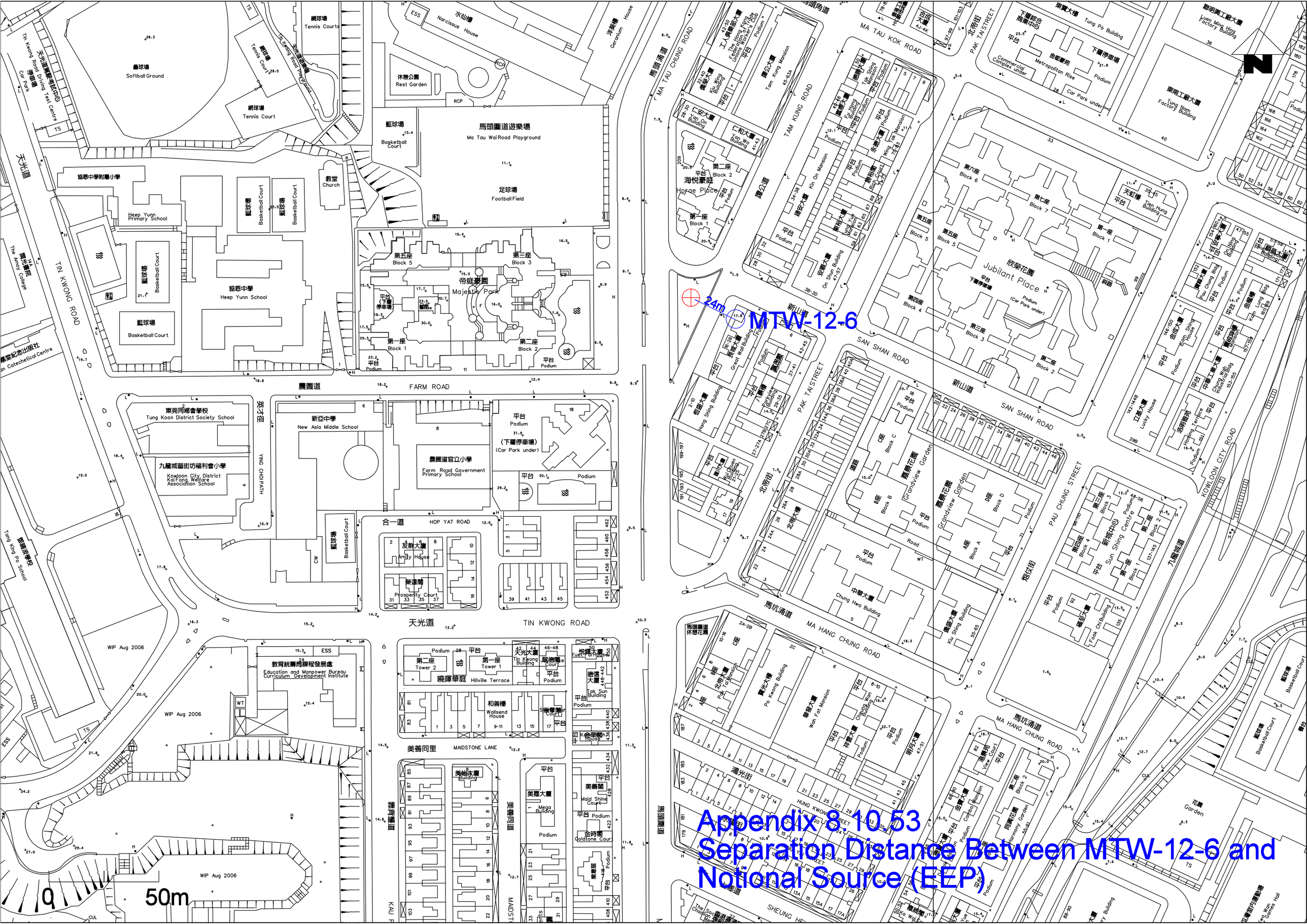

MTW-18-2
S21
S20
S18
S16
S24
S14
S12
S10
S8
S6
S4
S2
S1
S22
S42
300m
270m
235m
200m
170m
115m
85m
75m
60m
40m
35m
30m
0
50m
KAU PUI LUNG ROAD
MAIDSTONE ROAD
MA TAU WAI ROAD
SHEUNG HEUNG ROAD
PAU CHUNG STREET
LOK SHAN ROAD
KOWLOON CITY ROAD
HA HEUNG ROAD
CHEUNG NING STREET
MEIKING STREET
TO KWA WAN ROAD
CHI KIANG STREET
KIANG SU STREET
SZE CHUEN STREET
MEIWA STREET
LAI WA ST
Elevated Road
WIP Aug 2006
WIP Apr 2006
WIP Jun 2006
樂善樓 G座
Lok Seen Lau Block G
樂鄰樓 F座
Lok Lun Lau Block F
樂群樓 (E座)
Lok Kwan Lau(Block E)
樂豐樓 (D座)
Lok Fung Lau(Block D)
樂德樓 (C座)
Lok Tak Lau(Block C)
樂基樓 (B座)
Lok Kei Lau(Block B)
樂基樓 (A座)
Lok Kei Lau (Block A)
樂智樓 (H座)
Lok Chee Lau(Block H)
基道小學 (九龍城)
Kei To Primary School (Kowloon City)
遊樂場
Playground
市場 Market
土瓜灣市政大廈暨政府合署
To Kwa Wan Market And Government Offices
土瓜灣市政大廈遊樂場
To Kwa Wan Complex Playground
馬頭圍道／土瓜灣道公園
Ma Tau Wai Road / To Kwa Wan Road Garden
工場
Workshop
油站
Petrol Station
Appendix 8.10.49
Separation Distance Between MTW-18-2
and Notional Source (Stage 1)


S30
S28
S32
S26
S34
S36
S38
S40
S42
270m
220m
175m
130m
105m
55m
30m
MTW-18-2
0
50m
KAU PUI LUNG ROAD
MAIDSTONE ROAD
MA TAU WAI ROAD
SHEUNG HEUNG ROAD
PAU CHUNG STREET
LOK SHAN ROAD
KOWLOON CITY ROAD
HA HEUNG ROAD
CHEUNG NING STREET
TO KWA WAN ROAD
CHI KIANG STREET
KIANG SU STREET
MEIKING STREET
SZE CHUEN STREET
MEIWA STREET
Elevated Road
樂善樓 G座
Lok Seen Lau Block G
遊樂場
Playground
樂鄰樓 F座
Lok Lun Lau Block F
樂群樓 (E座)
Lok Kwan Lau(Block E)
樂豐樓 (D座)
Lok Fung Lau(Block D)
樂德樓 (C座)
Lok Tak Lau(Block C)
樂基樓 (B座)
Lok Kei Lau(Block B)
樂基樓 (A座)
Lok Kei Lau (Block A)
樂留樓 (H座)
Lok Chee Lau(Block H)
基道小學 (九龍城)
Kei To Primary School (Kowloon City)
土瓜灣市政大廈暨政府合署
To Kwa Wan Market And Government Offices
土瓜灣市政大廈遊樂場
To Kwa Wan Complex Playground
馬頭圍道／土瓜灣道公園
Ma Tau Wai Road / To Kwa Wan Road Garden
工場
Workshop
油站
Petrol Station
落山道遊樂場
Lok Shan Road Playground
聖公會牧愛小學
Skh Good Shepard Primary School
基督教香港信義會
信義宣道學校
Ellick Yung Hom Lutheran Primary School
聖富爾校友會學校
Northcote College of Education Association Schoolfellows
Appendix 8.10.50
Separation Distance Between MTW-18-2
and Notional Source (Stage 2)



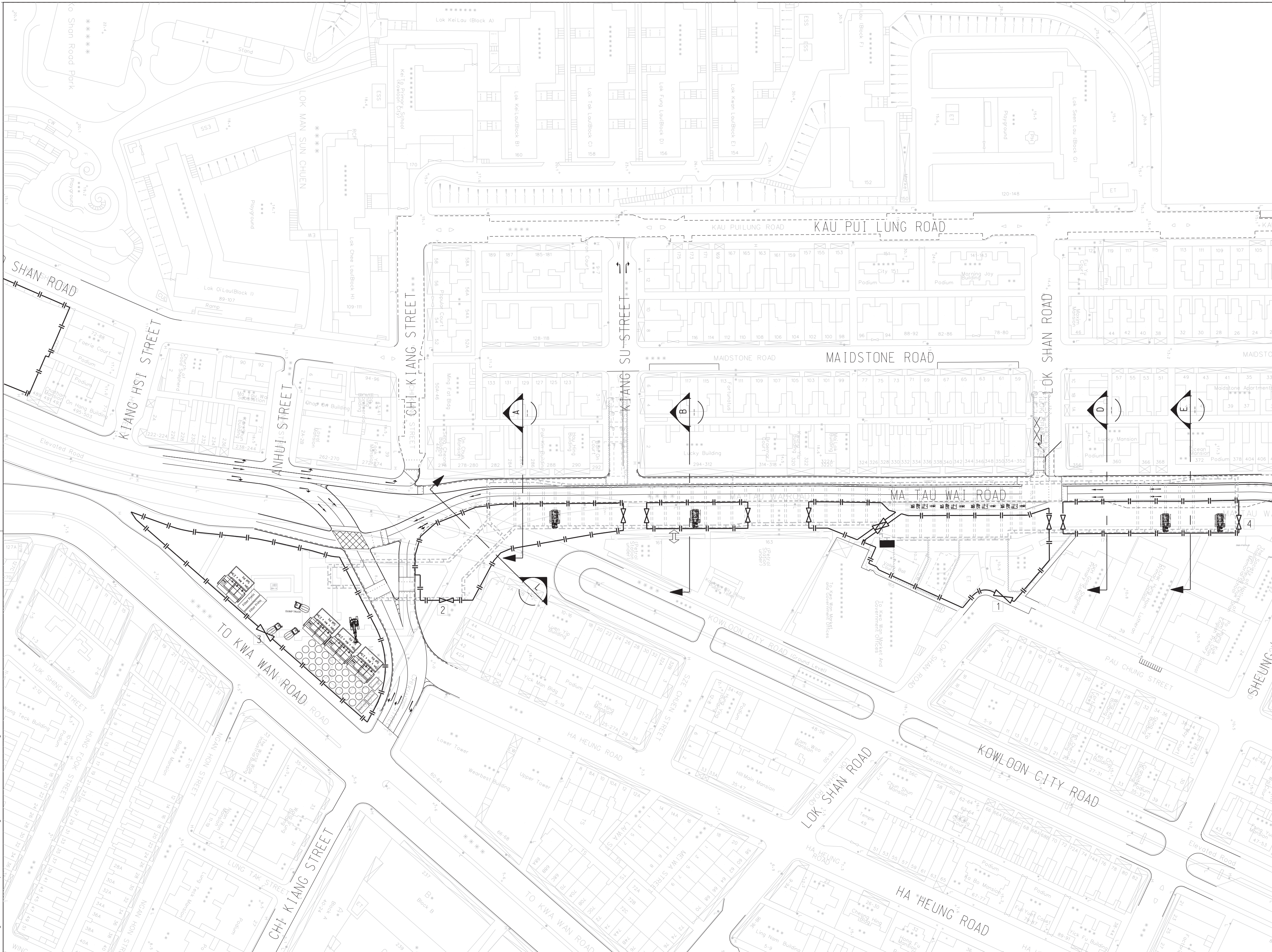
Appendix 8.10.51
Separation Distance Between MTW-18-2 and Notional Source (Stage 3, SSS (incl D&G Tunnels), TKW Garden and EKW Pier 15)

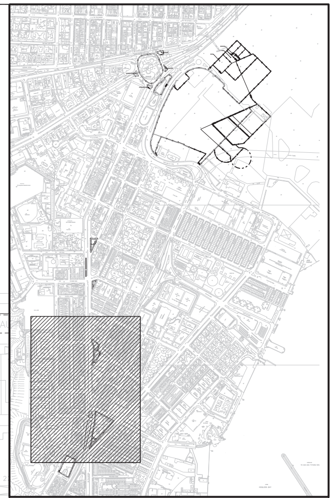

MTW-8-1
EEP
26m
0
50m
Appendix 8.10.52
Separation Distance Between MTW-8-1 and Notional Source (EEP)


24m
MTW-12-6
Appendix 8.10.53
Separation Distance Between MTW-12-6 and Notional Source (EEP)
0
50m
N
Tin Kwong Road Driving Test Centre
天光道駕駛考試中心
Car Park
Tin Kwong Road Playground
天光道遊樂場
Softball Ground
網球場
Tennis Courts
網球場
Tennis Court
水仙樓
Narcissus House
洋葵樓
Geranium House
休憩公園
Rest Garden
籃球場
Basketball Court
馬頭圍道遊樂場
Ma Tau Wai Road Playground
足球場
Football Field
教堂
Church
協恩中學附屬小學
Heep Yunn Primary School
協恩中學
Heep Yunn School
帝庭豪園
Majestic Park
第五座
Block 5
第三座
Block 3
第一座
Block 1
第二座
Block 2
平台
Podium
平台(下層停車場)
馬頭圍道
MA TAU WAI ROAD
馬頭涌道
MA TAU CHUNG ROAD
TAM KUNG ROAD
農公道
農圍道
FARM ROAD
天光道
TIN KWONG ROAD
TIN KWONG ROAD
東莞同鄉會學校
Tung Koon District Society School
九龍城區街坊福利會小學
Kowloon City District Kai Fong Welfare Association School
新亞中學
New Asia Middle School
農圍道官立小學
Farm Road Government Primary School
平台
Podium
(下層停車場)
(Car Park under)
合一道
HOP YAT ROAD
友群大廈
Amity House
榮達閣
Prosperity Court
YING CHO PATH
WIP Aug 2006
教育統籌局課程發展處
Education and Manpower Bureau Curriculum Development Institute
ESS
WT
曉暉華庭
Hillville Terrace
和善樓
Wallsend House
美善同里
MAIDSTONE LANE
美善閣
Maid Shine Court
金時閣
Goldtone Court
美善大廈
Mega Building
KAU FAN
MAIDSTONE
北帝街
PAK TAI STREET
新山道
SAN SHAN ROAD
欣榮花園
Jubilant Place
第六座
Block 6
第七座
Block 7
第五座
Block 5
第四座
Block 4
第三座
Block 3
第二座
Block 2
第一座
Block 1
天虹樓
Tien Hung Building
科務
下層停車場
Podium
(Car Park under)
下層綜合商業中心
Commercial Complex under
下層停車場
Car Park under
金都豪苑
Metropolitan Rise
東寶大樓
Tung Po Building
聯明興工廠大廈
Luen Ming Hing Factory Building
興南工廠大廈
Tung Nam Factory Building
PAK TAI STREET
MA TAU KOK ROAD
MA HANG CHUNG ROAD
馬坑涌道
PAU CHUNG STREET
炮仗街
KOWLOON CITY ROAD
九龍城道
新城中心
Sun Shing Centre
嘉景花園
Grandview Garden
A座
Block A
B座
Block B
C座
Block C
D座
Block D
中華大廈
Chung Hwa Building
鴻光街
HUNG KWONG STREET
SHEUNG HEI STREET
花園
Garden
馬頭圍道休憩花園
Horse Place
海悅豪庭
Kin On Mansion
安豪大廈
On Shun Building
仁安大廈
Jen On Building
仁和大廈
Jen Wo Building
工人康樂館大廈
Tiu Hong Kong Estate Workers' Club
農公大廈
Tam Kung Mansion
Great Wall Building
Hong Shing Building
Kiu Wing Building
Po Kwong Building
Wah Fat Mansion
Kiu Shing Building
Cathay Mansion
Harmony Garden
Lucky House
Prosperity Court
Amity House
Maid Shine Court
Goldtone Court
Mega Building
Tak Sun Building
Tin Kwong Building
Hillville Terrace
Wallsend House
Tung Koon District Society School
New Asia Middle School
Farm Road Government Primary School
Kowloon City District Kai Fong Welfare Association School
Education and Manpower Bureau Curriculum Development Institute
Heep Yunn School
Heep Yunn Primary School
Majestic Park
Jubilant Place
Sun Shing Centre
Grandview Garden
Chung Hwa Building
Po Kwong Building
Wah Fat Mansion
Kiu Shing Building
Cathay Mansion
Harmony Garden
Lucky House
Prosperity Court
Amity House
Maid Shine Court
Goldtone Court
Mega Building
Tak Sun Building
Tin Kwong Building
Hillville Terrace
Wallsend House
Tung Koon District Society School
New Asia Middle School
Farm Road Government Primary School
Kowloon City District Kai Fong Welfare Association School
Education and Manpower Bureau Curriculum Development Institute
Heep Yunn School
Heep Yunn Primary School
Majestic Park
Jubilant Place
Sun Shing Centre
Grandview Garden
Chung Hwa Building
Po Kwong Building
Wah Fat Mansion
Kiu Shing Building
Cathay Mansion
Harmony Garden
Lucky House
Prosperity Court
Amity House
Maid Shine Court
Goldtone Court
Mega Building
Tak Sun Building
Tin Kwong Building
Hillville Terrace
Wallsend House

Annex C

Excavation Works in 3 Stages at MTW





KEY PLAN

LEGEND :

SITE HOARDING

TRANSPARENT HOARDING

TEMPORARY OCCUPIED AREA

MAIN SITE ACCESS NO. 1

SITE ACCESS (FOR INTERNAL TRANSPORTATION ONLY)

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DESIGNED	SC
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SHATIN TO CENTRAL LINK

ORIGINATOR

SAMSUNG

Samsung - Hsin Chong Joint Venture

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TITLE

CONTRACT 1109

SUW AND TKW STATIONS AND TUNNELS

TO KWA WAN STATION

SITE SET-UP PLAN

STAGE 1 - PHASE 1

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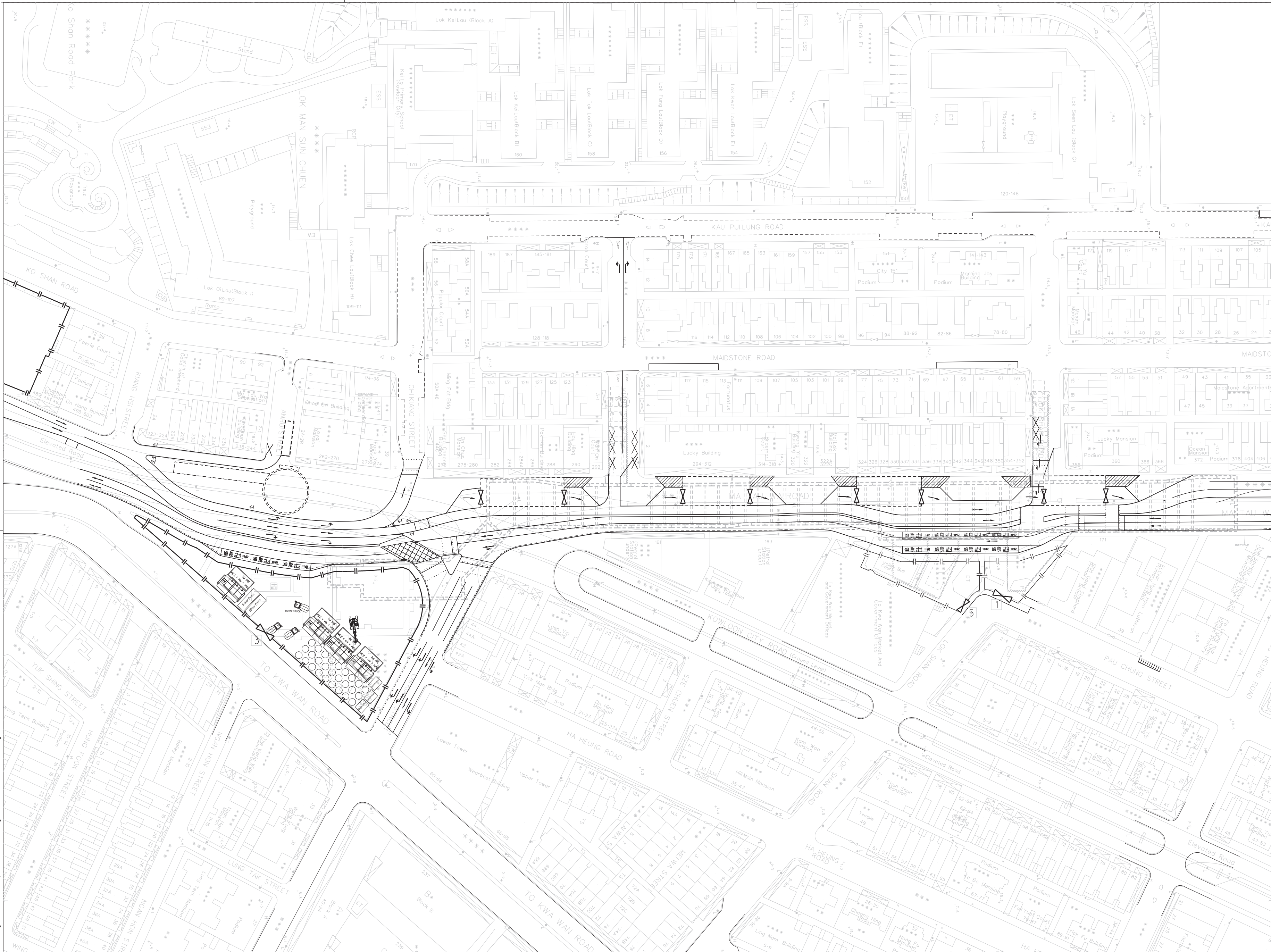

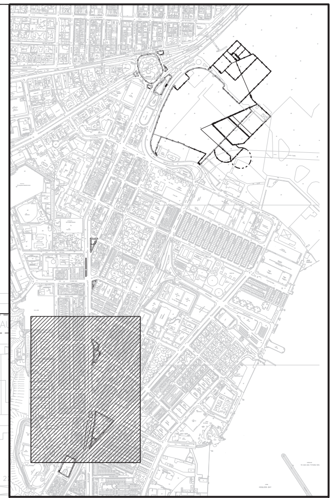

KEY PLAN

LEGEND :

—‖——‖—	SITE HOARDING
- - - - - -	TRANSPARENT HOARDING
(hatched)	TEMPORARY OCCUPIED AREA
⋈ 1	MAIN SITE ACCESS NO. 1
⋈	SITE ACCESS (FOR INTERNAL TRANSPORTATION ONLY)

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DRAWN	VL
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SHATIN TO CENTRAL LINK

ORIGINATOR

SAMSUNG

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TITLE

CONTRACT 1109
SUW AND TKW STATIONS AND TUNNELS
TO KWA WAN STATION
SITE SET-UP PLAN
STAGE 2 - PHASE 1

SCALE 1 : 1000 (A1)

DRAWING NO. 1109/T/TKW/SHJ/C10/010

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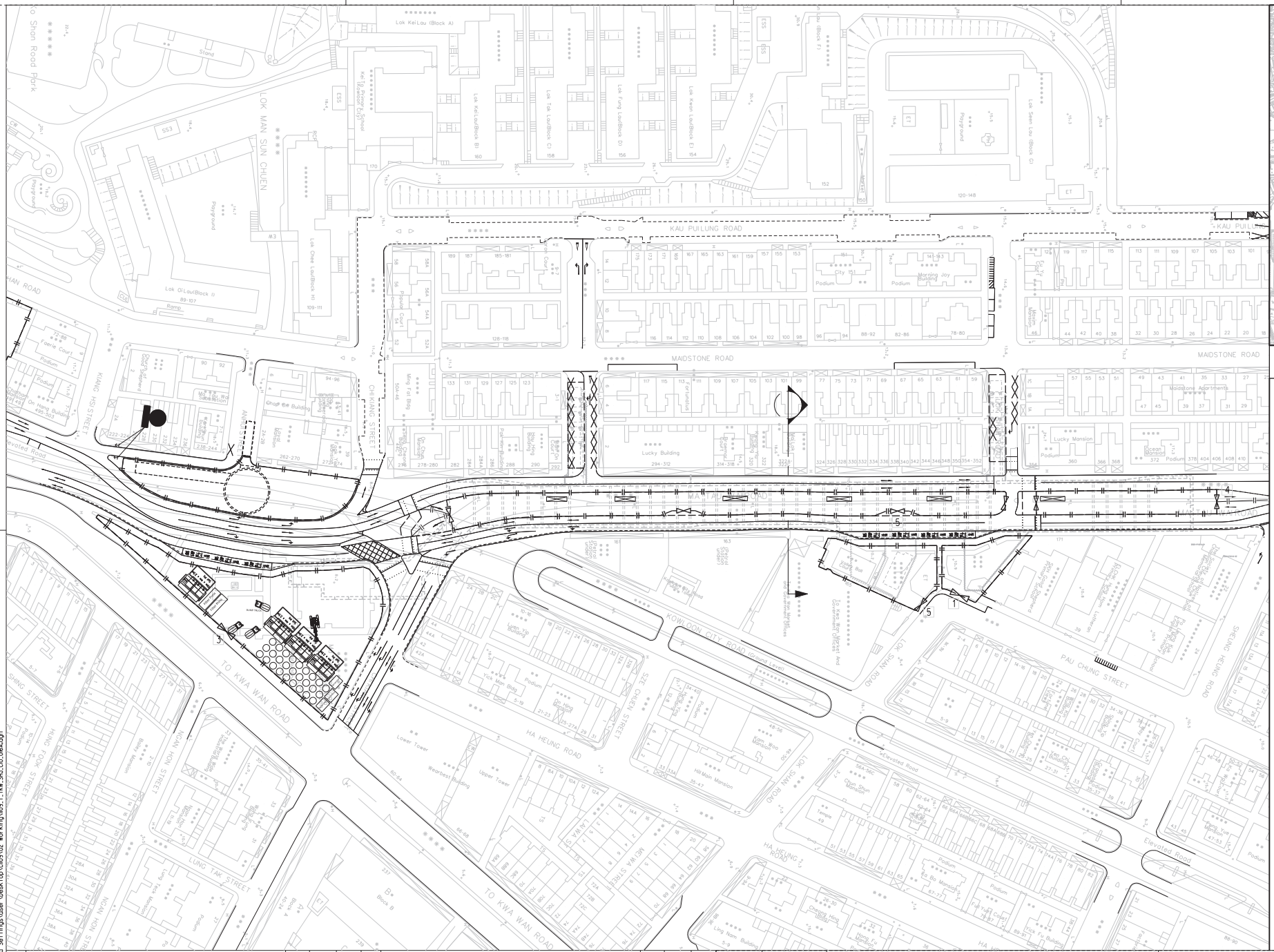

KEY PLAN

LEGEND :

- SITE HOARDING
- TRANSPARENT HOARDING
- TEMPORARY OCCUPIED AREA
- 1 MAIN SITE ACCESS NO. 1
- SITE ACCESS (FOR INTERNAL TRANSPORTATION ONLY)

REV	DESCRIPTION	BY	DATE	APPROVED
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TITLE

CONTRACT 1109
SUW AND TKW STATIONS AND TUNNELS
TO KWA WAN STATION
SITE SET-UP PLAN
STAGE 3

SCALE 1 : 1000 (A1)

DRAWING NO. 1109/T/TKW/SHJ/C10/016

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Appendix B

Construction Noise Mitigation Measures Plan for Contract No. 1111 – Hung Hom North Approach Tunnels

MTR Corporation Limited

Shatin to Central Link – Tai Wai to Hung Hom Section and Mong Kok East to Hung Hom Section

Construction Noise Mitigation Measure Plan (CNMMP)

Works Contract 1111

Hung Hom North Approach Tunnels

(June 2013)

Certified by: YT Tang

Position: Environmental Team Leader

Date: 10 June 2013

AECOM

Gammon- Kaden SCL 1111 Joint Venture

Shatin to Central Link
Contract 1111
Hung Hom North Approach Tunnels

Construction Noise Mitigation Measures Plan

June 2013

	Name	Signature
Prepared & Checked:	Joanne Tsoi	
Reviewed & Approved:	Y T Tang	

Version: 5	Date: 10 June 2013

Disclaimer

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1 INTRODUCTION

1.1 Project Description

1.1.1 The Shatin to Central Link (SCL) is one of the priority railways recommended for implementation in the Railway Development Strategy 2000. The Executive Council has endorsed on 11 March 2008 the SCL scheme jointly developed by the MTR Corporation Limited (MTR) and the HKSAR government to proceed with further planning and design for this line.

1.1.2 The SCL alignment comprises 17 kilometres of rail line that will connect several existing railway lines, creating two distinct east-west and north-south railway corridors. It will also provide interchange opportunities at six of its ten stations (Tai Wai, Diamond Hill, Homantin, Hung Hom, Exhibition and Admiralty). From east to west, the SCL will connect the existing Ma On Shan Line with the West Rail Line. The north-south corridor will be formed by extending the existing East Rail Line to Hung Hom Station (HUH) and then across Victoria Harbour to the planned Exhibition Station (EXH) and Admiralty Station (ADM). At ADM, interchanges will be provided with the existing Island Line, Tsuen Wan Line and the South Island Line (East) (SIL(E)).

1.1.3 The Shatin to Central Link Environmental Impact Assessment Report for Mong Kok East to Hung Hom Section [SCL (MKK-HUH)] (Register No.: AEIAR-165/2012), Tai Wai to Hung Hom Section [SCL (TAW-HUH)] (Register No.: AEIAR-167/2012) and Stabling Sidings at Hung Hom Freight Yard [SCL (HHS)] (Register No.: AEIAR-164/2012) were submitted and subsequently approved with conditions by the Environmental Protection Department (EPD) on 17 February 2012 respectively. Two EPs were subsequently obtained (EP No.: EP-437/2012 and EP- 438/2012/C).

1.1.4 The construction of the SCL had been divided into different sections. This Construction Noise Mitigation Plan (CNMMP) for Works Contract 1111 covers part of the construction activities located at Hung Hom under the two EPs which include:

- SCL - Mong Kok East to Hung Hom Section (SCL (MKK – HUH))
  - (i) Construction of an realigned and modified railway from Portal 1A near Oi Man Estate to Hung Hom Station;
  - (ii) Noise mitigation measures at Portal 1A;
  - (iii) Modification works on the existing Homantin Siding;
  - (iv) New EVA near Hung Hom Station.
- SCL - Tai Wai to Hung Hom Section (SCL (TAW – HUH))
  - (i) Part of the railway tunnel from Ho Man Tin Station to Hung Hom.
- SCL – Hung Hom Stabling Siding (SCL (HHS)
  - (i) Construction of tracks and noise barrier of Hung Hom Stabling Sidings

1.1.5 Condition 2.7 of the Environmental Permit No. EP-437/2012 for Shatin to Central Link– Mong Kok East to Hung Hom Section (SCL (MKK – HUH)) and Condition 2.9 of the Environmental Permit No. EP-438/2012/C for Shatin to Central Link– Tai Wai to Hung Hom Section (SCL (TAW-HUH)) stipulated that to further reduce the air-borne construction noise impacts on the Noise Sensitive Receivers (NSRs) with exceedance after mitigation, as predicted in the EIA Report, the Permit Holder shall submit to the Director for approval an updated Construction Noise Mitigation Measure Plan (CNMMP) and other initiatives proposed by the Permit Holder. The plan shall include:

(a) A schedule of construction works to be carried out at the works areas of the Project

within 300m from the NSRs;

(b) An updated construction methodology of the construction works;

(c) An updated powered mechanical equipment (PME) list for the construction works;

(d) An updated proposal of air-borne construction noise mitigation measures for the NSRs, including the provision of noise barriers, enclosures; and

(e) An updated prediction of noise levels in accordance with the above updated information and mitigation proposals in place.

1.1.6 AECOM Asia Co.Ltd. was commissioned by the Contractor, Gammon-Kaden SCL1111 JV, to prepare the mentioned Construction Noise Mitigation Measures Plan (CNMMP).

1.1.7 Since this CNMMP only covers the construction activities at work area for SCL1111, among the identified NSRs with exceedance as stated in the EPs, only Carmel Secondary School (South Block) and Wing Fung Building are considered relevant. The works area of SCL1111 is shown in **Figure 1**.

2 CONSTRUCTION WORKS/ACTIVITIES OF THE PROJECT

2.1.1 The construction works would commence in the end of 2012 and expected to complete in 2018. **Table 2.1** summarises the major construction tasks to be carried out, the programme of each construction tasks is shown in **Appendix 1A**.

Table 2.1 Summary of Construction Tasks for the Works

Item	Major Construction Task
1	Construction of SCL (MKK – HUH) North Approach Tunnels
2	Construction of Noise Enclosure at Portal 1A
3	Oi Sen Slope Work
4	Modification works on the existing Homantin Siding
5	Construction of New EVA
6	Construction of SCL (TAW – HUH) Tunnels
7	Construction of tracks and noise barriers of Hung Hom Stabling Siding

2.1.2 According to the construction program, the construction tasks would be divided into various sub-tasks and would be conducted simultaneously within the project period from 2012 to 2018. Since the detailed construction program and plant inventory are being refined, this assessment is based on the plant inventory and construction program provided by Gammon-Kaden SCL1111 JV.

2.1.3 As suggested in the EIA studies, quiet plants would be used for the construction tasks to minimise the noise impact to the nearby Noise Sensitive Receivers. The PMEs used in the project are summarised in **Table 2.2.**

Table 2.2 Summary of PMEs

PME	Reference	SWL, dB(A)
Asphalt Paver	BS D8/24	101
Backhoe	BS D3/35	106
Backhoe with Hydraulic Breaker	BS D8/13	110
Bar Bender	CNP 021	90
Concrete Lorry mixer	CNP 044 or BS D6/33	109 or 96
Concrete mixer truck	BS D6/33	96
Concrete Pump	BS D6/36	106
Concrete Pump Truck	BS D6/36	106
Crane, mobile	BS D7/101	94
Crawler crane	BS D7/112	102
Crawler / Excavator Loader	CNP 082	94
Dump truck	BS D9/24	104
Excavator	BS D3/35	106
Flat Bed Lorry	BS D9/19	102
Generator	CNP 103	95
Hydraulic breaker	BS D8/13	110
Hydraulic Excavator	BS D3/35	106
Lorry	BS D9/19	102
Lorry with crane/grab	BS D7/101	94
Lorry mounted concrete pump	BS D6/34	107
Mini Piling Rig	BS D11/2	112
Oversite concreting Truck mixer	BS D6/23	100
Power Rammer (petrol)	CNP 169	108
Piling Rig	BS D11/2	112
Poker, vibrator, hand-held	BS D6/40	98

PME	Reference	SWL, dB(A)
Road Roller	BS D8/30	101
Roller	BS D8/30	101
Saw concrete	CNP 203	115
Trenching machine	BS D3/106	105
Truck	BS D9/39	103
Vibratory Hammer	BS D4/53	118
Welding Set	CNP 107	99
Wheeled excavator/ loader fitted with hydraulic rock break	BS D8/12	106

2.1.4 A more detailed Plant inventory showing each of construction is shown in **Appendix 1A** the location of works area is shown in **Appendix 1C**.

2.1.5 Based on latest information, the proposed works under Works Contract 1111 would be conducted concurrently with Kwun Tong Line Extension (KTE) and other sections of SCL (MKK – HUH), SCL (TAW-HUH) and SCL (HHS) under other Works Contract of SCL, Works Contract 1112.

3 ASSESSMENT CRITERIA AND METHODOLOGY

3.1 Assessment Criteria

3.1.1 Noise impacts generated by the construction of this Project are assessed in accordance with the criteria given in the Technical Memoranda (TMs) under the Noise Control Ordinance, and the Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM). The construction noise standards are presented in **Table 3.1**.

Table 3.1 Daytime Construction Noise Criteria

Use	Noise Level in $L_{eq\ (30\text{-}min)}$, dB(A)
Residential	75
Educational Institute (examination period)	70 (65)

3.2 Assessment Methodology

3.2.1 Noise impacts generated by the construction of this Project are assessed in accordance with the methodology given in the Technical Memorandum on Noise from Construction Work Other Than Percussive Piling (GW-TM) under the Noise Control Ordinance.

3.2.2 SWLs of the equipment have been made reference from Table 6 of GW-TM. Where no relevant SWL is found in the GW-TM, reference has been made to *British Standard 5228: Part 1:2009* Noise Control on Construction and Open Sites.

3.2.3 It is assumed that all PME items required for a particular construction activity would be located at the notional source which is a position mid-way between the approximate geographical centre of each phase construction work site and its boundary nearest to the noise sensitive receiver.

3.2.4 To predict the noise level, PME items are divided into groups required for each discrete construction task. The objective is to identify the worst case scenario representing those items of PME that would be in use concurrently at any given time. The sound pressure level of each construction task at representative noise sensitive receivers (NSRs) is calculated based on the number of plant and the distance from the noise assessment points. If there are concurrent construction tasks, the noise levels at representative noise assessment points are predicted by adding up the sound pressure levels of all concurrent construction tasks.

3.2.5 A positive 3 dB(A) façade correction is added to the predicted noise levels in order to account for the facade effect at each noise assessment point. Noise impacts at the nearest sensitive facades of the residential buildings/educational institutes to the source positions are assessed.

3.2.6 Cumulative impact assessment would account all other concurrent works within 300m study area of the NSRs described in Section 4 below. It has been identified that several construction works of KTE, SCL (MKK – HUH) and SCL(TAW-HUH) and SCL(HHS) under Works Contract 1112 are located within the study area.

3.2.7 For the assessment of cumulative impact, the noise contribution of KTE was made reference to the approved KTE and SCL(MKK–HUH) EIA Reports (Register No.:AEIAR-154/2010 and AEIAR-165/2012). Noise contribution of Works Contract 1112 was retrieved from the Construction Noise Mitigation Measures Plan (CNMMP) of Works Contract 1112.

4 NOISE SENSITIVE RECEIVERS

4.1.1 With reference to the findings of EIA studies, the EP on SCL (MKK – HUH) required further actions on the Noise Sensitive Receivers (NSRs) with exceedance, i.e. Carmel Secondary School (South Block) and Wing Fung Building. The EP on SCL (TAW – HUH) identified 19 NSRs for further actions; however, only Wing Fung Building is located within 300m of the project area under this contract.

4.1.2 Based on the EP condition, Carmel Secondary School (South Block) and Wing Fung Building are identified as Representative NSRs in this assessment. The description of the two identified Representative NSRs are shown in **Table 4.1**, and the predicted noise levels at the two representative NSRs are shown in **Table 4.2**.

Table 4.1 Summary of Representative Noise Sensitive Receivers

NSR ID	Location	Use	No. of Storey
OM4a	Carmel Secondary School (South Block) (All rooms are air-conditioned and soundproof windows)	Educational Institution	5
HH2[1]	Wing Fung Building	Residential	8

Footnote:
[1] Wing Fung Building is named as HH2 and HUH-1-3 in SCL(MKK-HUH) EIA Report, and SCL(TAW-HUH) and SCL(HHS) EIA Reports respectively.

Table 4.2 Summary of Predicted Noise Levels in the Approved EIA Report

NSR ID	NSR	Predicted Noise Level, $L_{eq\ (30\text{-}min)}$, dB(A)	Noise Criteria, $L_{eq\ (30\text{-}min)}$, dB(A)	Exceedance, $L_{eq\ (30\text{-}min)}$, dB(A)	Duration and Period of Exceedance
OM4a	Carmel Secondary School (South Block)	53 – 70 (53 – **69**)[2]	70 65 (Examination periods)[1]	1 – 4	4 months Apr - May / Dec 2014 Mar 2015 (Examination periods)[1]
HH2	Wing Fung Building	61 – **78**[3]	75	1 – 3	8 months May - Sept / Nov - Dec 2014 Jan 2015

Footnote:
[1] According to SCL(MKK-HUH) EIA Report, examination periods are assumed to be March, April, May and December every year.
[2] Extracted from SCL(MKK-HUH) EIA Report.
[3] Extracted from SCL(HHS) EIA Report.

5 ASSESSMENT OF CONSTRUCTION NOISE IMPACT

5.1 Mitigation Measures

5.1.1 The mitigation measures proposed in the approved EIA Report of SCL (MKK – HUH), SCL (TAW – HUH) and SCL (HHS) have been adopted. The adopted mitigation measures are summarised in **Table 5.1**.

Table 5.1 Adopted Mitigation Measures

PME	Mitigation Measures Proposed	Noise Reduction, dB(A)[1]
Air compressor	Enclosure/ Shed	15
Asphalt paver	Movable Barrier	5
Backhoe	Movable Barrier	5
Backhoe with Hydraulic Breaker	Movable Barrier	5
Bar Bender and Cutter	Movable Barrier	10
Crane, mobile	Movable Barrier	5
Concrete Pump	Movable Barrier	10
Drill Rig	Fabric	10
Drill, hand-held	Movable Barrier	5
Excavator	Movable Barrier	5
Generator	Movable Barrier	10
Grout Pump	Movable Barrier	10
Hand held Breaker	Movable Barrier	5
Hydraulic Breaker	Movable Barrier	5
Hydraulic Excavator	Movable Barrier	5
Lorry with crane/grab	Movable Barrier	5
Mini Piling Rig	Fabric	10
Piling Rig	Fabric	10
Piling, diaphragm wall, bentonite filtering plant	Fabric	10
Piling, large diameter bored, grab and chisel	Fabric	10
Saw, concrete	Movable Barrier	10
Vibratory Hammer	Fabric	10

Footnote:
[1] Noise level reduction of 5dB(A) and 10dB(A) was adopted for movable barrier for mobile plant and stationary plant respectively.

5.2 Noise Assessment Result

5.2.1 The predicted noise levels at Carmel Secondary School and Wing Fung Building after the implementation of quiet plants and mitigation measures, including noise enclosure/shed, movable barriers and acoustic fabric are shown **in Appendix 2** and summarised in **Table 5.2**.

Table 5.2 Summary of Noise Assessment Result (SCL1111 only)

NSR ID	NSR	Predicted Noise Level, $L_{eq\ (30\text{-}min)}$, dB(A)	Noise Criteria, $L_{eq\ (30\text{-}min)}$, dB(A)	Exceedance, $L_{eq\ (30\text{-}min)}$, dB(A)	Duration and Period of Exceedance
OM4a	Carmel Secondary School (South Block)	48 – 64	70 65 (Examination periods)[1]	Nil	N/A
HH2	Wing Fung Building	55 – **77**	75	1 – 2	4 months Jan / Mar - May 2015

Footnote:

[1] According to SCL(MKK-HUH) EIA Report, examination periods are assumed to be March, April, May and December every year.

5.2.2 **Table 5.3** presents the cumulative noise level at the identified NSRs and details of the calculation are given in **Appendix 2**. After taking the cumulative impact from concurrent projects into account, residual impacts are still predicted at all identified NSRs even with the implementation of all above mentioned mitigation measures.

Table 5.3 Summary of Noise Assessment Result (Cumulative)

NSR ID	NSR	Predicted Noise Level, $L_{eq\ (30\text{-}min)}$, dB(A)	Noise Criteria, $L_{eq\ (30\text{-}min)}$, dB(A)	Exceedance, $L_{eq\ (30\text{-}min)}$, dB(A)	Duration and Period of Exceedance
OM4a	Carmel Secondary School (South Block)	52 – 70 (52 – **69**)[1]	70 65 (Examination periods)[1]	1 – 4	3 months Dec 2014 Mar 2015 Mar 2017 (Examination periods)[1]
HH2	Wing Fung Building	55 – **77**	75	1 – 2	8 months Sep - Dec 2014 Jan / Mar - May 2015

Footnote:
[1] According to SCL(MKK-HUH) EIA Report, examination periods are assumed to be March, April, May and December every year.

5.2.3 The maximum predicted noise level and exceedance duration at both Carmel Secondary School and Wing Fung Building are either reduced or remain unchanged as compared to the predicted noise levels presented in the SCL(MKK-HUH) and SCL(HHS) EIA Reports. Comparing to the SCL(HHS) EIA Report, the maximum predicted noise level at Wing Fung Building is reduced to 77 dB(A). Comparing to SCL(MKK-HUH) EIA Report, the exceedance duration at Carmel Secondary School is reduced to 3 months.

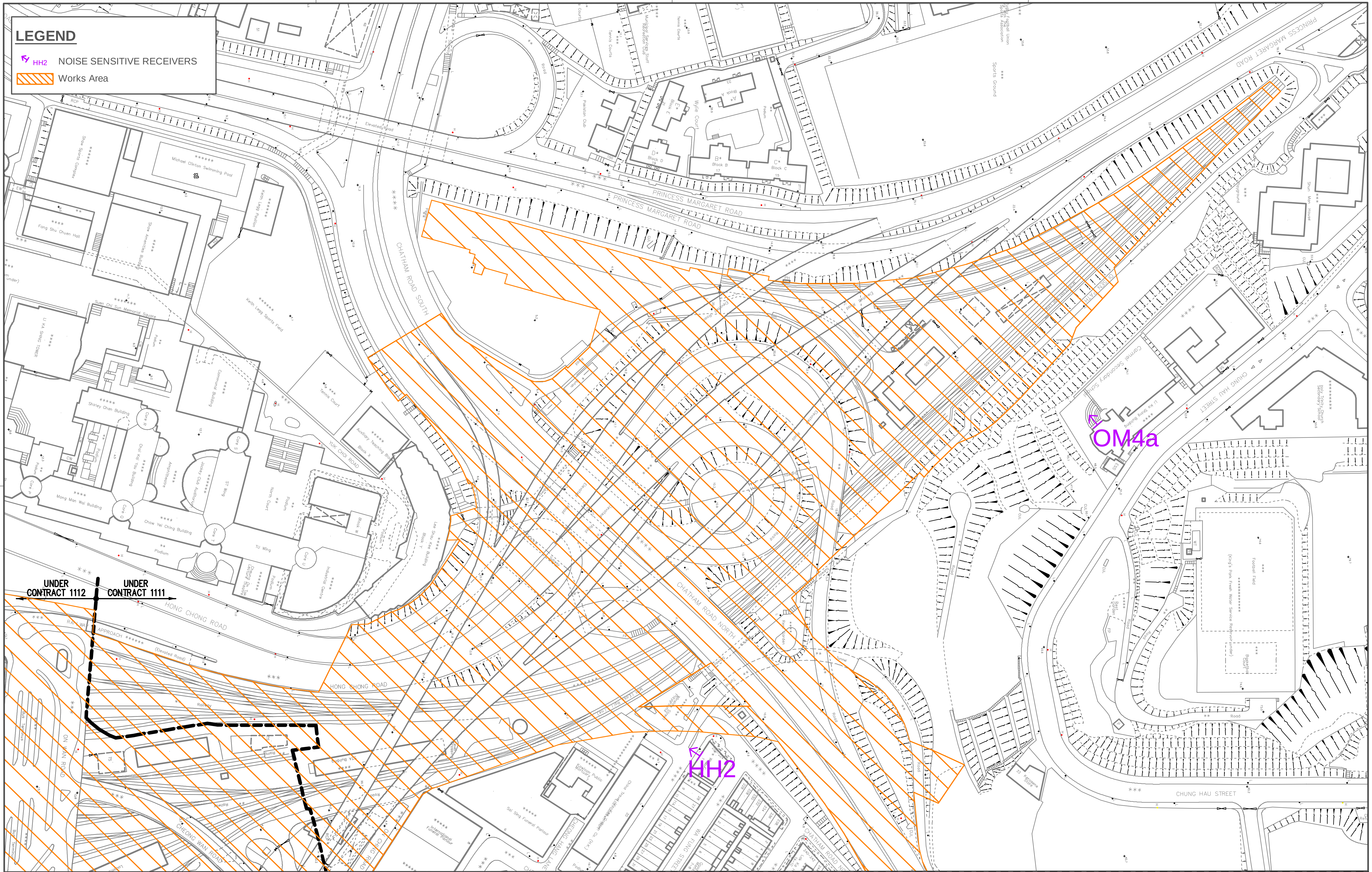
5.2.4 The exceedance at the Carmel Secondary School is due to the close proximity, construction method at the worksite and cumulative impact with KTE, as revealed in the approved SCL(MKK-HUH) EIA Report. The exceedance at Wing Fung Building is due to the close proximity and construction method at the worksite, as revealed in the approved SCL(HHS) EIA Report. The cumulative impact assessment indicated that the impact from Works Contract 1112 is insignificant and would not affect the predicted maximum noise level predicted at Wing Fung Building.

6 CONCLUSION

6.1.1 This CNMMP has predicted the construction noise impact from Works Contract 1111 to the identified NSRs. This plan has taken into account the updated information on PMEs and works programme which would be adopted by the contractor. With the implementation of mitigation measures in form of quiet plants, barriers and acoustic fabrics, the construction noise impact are predicted would either remain unchanged or to be reduced in respect of both exceedances and duration.

6.1.2 Further review and update will be performed during the construction phase and liaison with affected parties is recommended to minimise the construction noise impacts as far as practicable. Attention will be given to construction activities which are predicted to give noise exceedances ensuring proper implementation of the appropriate mitigation measures.

FIGURES



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CONTRACTOR: Gammon – Kaden SCL 1111 Joint Venture

ORIGINATOR: LAMBETH

CADD REF.

TITLE

CONTRACT 1111
HUNG HOM NORTH APPROACH TUNNELS
NSL & EWL TUNNELS – LOCATIONS OF NOISE SENSITIVE RECEIVERS

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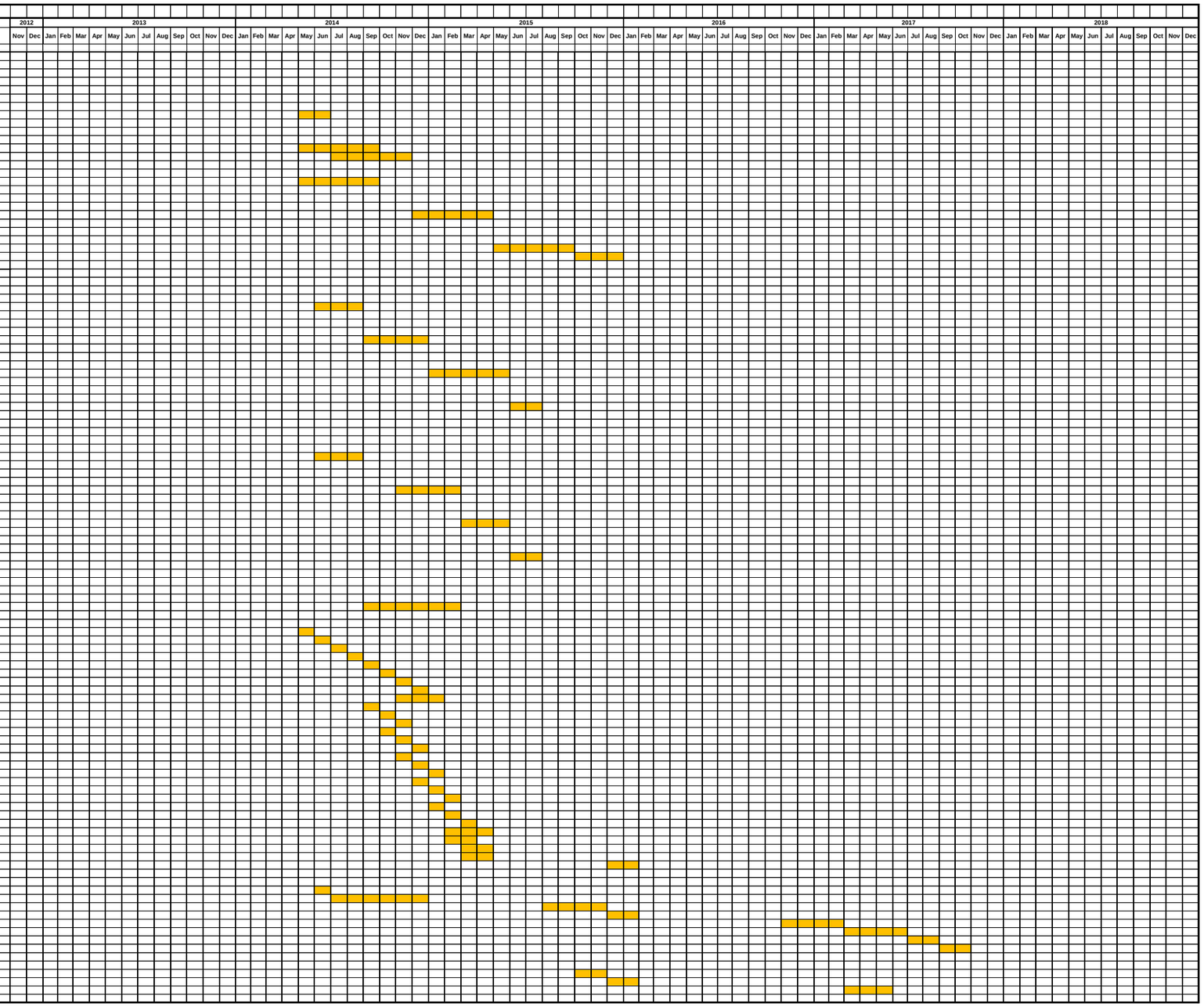
APPENDIX 1A

Construction Programme

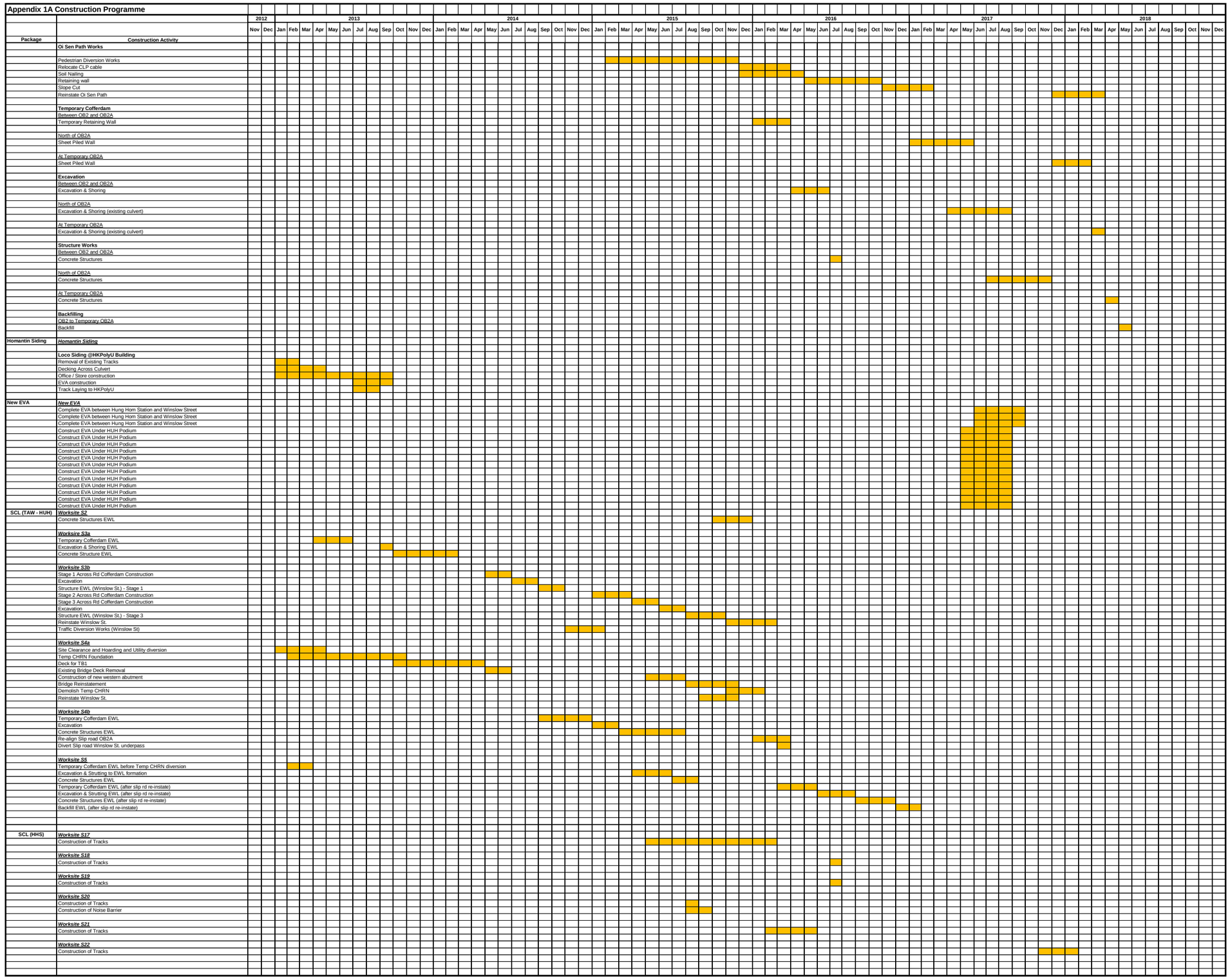
Appendix 1A Construction Programme

Package	Construction Activity
NAT & Related Work	***North Approach Tunnel Sub-Location Area***
	Area C2
	Demolish Existing Facilities
	Demolish Existing STA Building
	Temporary Cofferdam
	Hung Hom Bypass Pier C2/5
	Install Diaphragm Wall
	Underpinning foundation
	Existing Culverts to STA Building
	Cofferdam Construction
	Excavation
	Existing Culverts to STA Building
	Excavation & Shoring
	Structure Works
	Existing Culverts to STA Building
	Concrete Structures SCL (MKK - HUH)
	Concrete Structures SCL (TAW - HUH)
	Area C3A
	Temporary Cofferdam
	STA Building to Chatham Road North (OB2)
	Cofferdam Construction
	Excavation
	STA Building to Chatham Road North (OB2)
	Excavation & Shoring
	Structure Works
	STA Building to Chatham Road North (OB2)
	Concrete Structures SCL (MKK - HUH)
	Backfilling
	STA Building to Chatham Road North (OB2)
	Backfill
	Area C4A
	Temporary Cofferdam
	Chatham Road North (OB2) to Slip Road (OB2A)
	Cofferdam Construction
	Excavation
	Chatham Road North (OB2) to Slip Road (OB2A)
	Excavation & Shoring
	Structure Works
	Chatham Road North (OB2) to Slip Road (OB2A)
	Concrete Structures SCL (MKK - HUH)
	Backfilling
	Chatham Road North (OB2) to Slip Road (OB2A)
	Backfill
	Area C6
	Modification/ Enabling Works/ Utilities Diversions
	Existing CLP Substation
	Modify Existing CLP Substation
	Oi Sen Path Temporary Footbridge
	Construct Temporary Working Platform (GL G-J)
	Cut Back Slope and Existing Soil Nails and Install New Soil Nails (GL G-J)
	Construct Temporary Working Platform (GL E-G)
	Cut Back Slope and Existing Soil Nails and Install New Soil Nails (GL E-G)
	Construct Temporary Working Platform (GL C-E)
	Cut Back Slope and Existing Soil Nails and Install New Soil Nails (GL C-E)
	Construct Temporary Working Platform (GL A-C)
	Cut Back Slope and Existing Soil Nails and Install New Soil Nails (GL A-C)
	Construct Temporary Footbridge Structure and Finishes (GL A-J)
	Install Mini Piles (Pier K)
	Construct Pile Cap (Pier K)
	Construct Truss Structure (Pier K)
	Install Mini Piles (Pier L)
	Construct Pile Cap (Pier L)
	Construct Truss Structure (Pier L)
	Install Mini Piles (Pier M)
	Construct Pile Cap (Pier M)
	Construct Truss Structure (Pier M)
	Install Mini Piles (Pier N)
	Construct Pile Cap (Pier N)
	Construct Truss Structure (Pier N)
	Install Mini Piles (Pier P)
	Construct Pile Cap (Pier P)
	Construct Truss Structure (Pier P)
	Construct Temporary Footbridge Structure and Finishes (GL J-O)
	Construct Pile Cap (GL O-R)
	Construct Truss Structure (GL O-R)
	Construct Temporary Footbridge Structure and Finishes (GL O-R)
	Complete Footpath and Finishes (GL R-T)
	Chatham Road North Slip Road Overbridge (OB2A)
	Site Clearance and Hoarding and Utility diversion
	Foundations for Temporary OB2A (Piling & Pier)
	Deck Construction for Temporary OB2A
	Demolish Deck of Existing OB2A
	Construction of New OB2A Pile & Pile Cap
	Construction of New OB2A Abutment & Bridge Deck
	OB2A Reinstatement
	Temporary OB2A Removal
	OB2A Pedestrian Subway
	Site Clearance and Hoarding and Utility diversion
	Demolish Existing Box Structure of OB2A Pedestrian Subway
	OB2A Pedestrian Subway Reinstatement



Appendix 1A Construction Programme

Package	Construction Activity
	Oi Sen Path Works
	Pedestrian Diversion Works
	Relocate CLP cable
	Soil Nailing
	Retaining wall
	Slope Cut
	Reinstate Oi Sen Path
	Temporary Cofferdam
	Between OB2 and OB2A
	Temporary Retaining Wall
	North of OB2A
	Sheet Piled Wall
	At Temporary OB2A
	Sheet Piled Wall
	Excavation
	Between OB2 and OB2A
	Excavation & Shoring
	North of OB2A
	Excavation & Shoring (existing culvert)
	At Temporary OB2A
	Excavation & Shoring (existing culvert)
	Structure Works
	Between OB2 and OB2A
	Concrete Structures
	North of OB2A
	Concrete Structures
	At Temporary OB2A
	Concrete Structures
	Backfilling
	OB2 to Temporary OB2A
	Backfill
Homantin Siding	***Homantin Siding***
	Loco Siding @HKPolyU Building
	Removal of Existing Tracks
	Decking Across Culvert
	Office / Store construction
	EVA construction
	Track Laying to HKPolyU
New EVA	***New EVA***
	Complete EVA between Hung Hom Station and Winslow Street
	Complete EVA between Hung Hom Station and Winslow Street
	Complete EVA between Hung Hom Station and Winslow Street
	Construct EVA Under HUH Podium
	Construct EVA Under HUH Podium
	Construct EVA Under HUH Podium
	Construct EVA Under HUH Podium
	Construct EVA Under HUH Podium
	Construct EVA Under HUH Podium
	Construct EVA Under HUH Podium
	Construct EVA Under HUH Podium
	Construct EVA Under HUH Podium
	Construct EVA Under HUH Podium
	Construct EVA Under HUH Podium
	Construct EVA Under HUH Podium
	Construct EVA Under HUH Podium
SCL (TAW - HUH)	***Worksite S2***
	Concrete Structures EWL
	Worksire S3a
	Temporary Cofferdam EWL
	Excavation & Shoring EWL
	Concrete Structure EWL
	Worksite S3b
	Stage 1 Across Rd Cofferdam Construction
	Excavation
	Structure EWL (Winslow St.) - Stage 1
	Stage 2 Across Rd Cofferdam Construction
	Stage 3 Across Rd Cofferdam Construction
	Excavation
	Structure EWL (Winslow St.) - Stage 3
	Reinstate Winslow St.
	Traffic Diversion Works (Winslow St)
	Worksite S4a
	Site Clearance and Hoarding and Utility diversion
	Temp CHRN Foundation
	Deck for TB1
	Existing Bridge Deck Removal
	Construction of new western abutment
	Bridge Reinstatement
	Demolish Temp CHRN
	Reinstate Winslow St.
	Worksite S4b
	Temporary Cofferdam EWL
	Excavation
	Concrete Structures EWL
	Re-align Slip road OB2A
	Divert Slip road Winslow St. underpass
	Worksite S5
	Temporary Cofferdam EWL before Temp CHRN diversion
	Excavation & Strutting to EWL formation
	Concrete Structures EWL
	Temporary Cofferdam EWL (after slip rd re-instate)
	Excavation & Strutting EWL (after slip rd re-instate)
	Concrete Structures EWL (after slip rd re-instate)
	Backfill EWL (after slip rd re-instate)
SCL (HHS)	***Worksite S17***
	Construction of Tracks
	Worksite S18
	Construction of Tracks
	Worksite S19
	Construction of Tracks
	Worksite S20
	Construction of Tracks
	Construction of Noise Barrier
	Worksite S21
	Construction of Tracks
	Worksite S22
	Construction of Tracks



APPENDIX 1B

Construction Plant Inventory

Appendix 1B Construction Plant Inventory

Plant Inventory for Construction Noise Assessment - North Approach Tunnel & Related Works

Scenario: Mitigated

Area C1

Demolish Existing Facilities

Demolish Existing Loco Running Shed

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe with Hydraulic Breaker	BS D8/13	1	110	70%	0	108
Dump Truck	BS D9/24	1	104	30%	0	99
					Overall Noise Level, dB(A)	**109**

Demolish Existing Ways & Works Workshop

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe with Hydraulic Breaker	BS D8/13	1	110	70%	0	108
Dump Truck	BS D9/24	1	104	30%	0	99
					Overall Noise Level, dB(A)	**109**

Modification/ Enabling Works/ Utilities Diversions

Cheung Wan Road Viaduct

Site Clearance and Hoarding and Utility diversion

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Excavator	BS D3/35	1	106	60%	0	104
Air Compressor	CNP 002	1	102	70%	0	100
Hand held breaker	CNP 024	1	108	50%	0	105
Lorry with crane/grab	CNP 145	1	105	80%	0	104
Welder/generator	CNP107	1	99	40%	0	95
					Overall Noise Level, dB(A)	**110**

Foundations

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crane, mobile	BS D7/101	1	94	30%	0	89
Rock drill	EIA Ref.	1	108	30%	0	103
Air compressor	CNP 002	1	102	60%	0	100
Poker, Vibratory, Hand-held	BS D6/40	1	98	30%	0	93
Concrete lorry mixer	BS D6/33	1	96	30%	0	91
Piling, large diameterbored, grab and chisel	CNP 164	1	115	50%	0	112
Welder/generator	CNP107	1	99	30%	0	94
Excavator	BS D3/35	1	106	30%	0	101
					Overall Noise Level, dB(A)	**113**

Construction of Substructure and Superstructure for New Diversion Bridge

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Excavator	BS D3/35	1	106	50%	0	103
Concrete lorry mixer	BS D6/33	2	96	30%	0	94
Poker, Vibratory, Hand-held	BS D6/40	1	98	30%	0	93
Air Compressor	CNP 002	1	102	70%	0	100
Crane, mobile	BS D7/101	1	94	30%	0	89
					Overall Noise Level, dB(A)	**106**

Demolish of Existing Viaduct

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Excavator	BS D3/35	1	106	70%	0	104
Hydraulic breaker	BS D8/13	1	110	70%	0	108
Saw, concrete	CNP 203	1	115	40%	0	111
Air Compressor	CNP 002	1	102	70%	0	100
Lorry with crane/grab	CNP 145	1	105	100%	0	105
Crane, mobile	BS D7/101	1	94	70%	0	92
Welder/generator	CNP107	1	99	40%	0	95
					Overall Noise Level, dB(A)	**114**

Remarks:
EIA Ref. : The SWL of Rock Drill was made reference to the approved EIA Report of "Tsim Sha Tsui Station Northern Subway".

Appendix 1B Construction Plant Inventory

Plant Inventory for Construction Noise Assessment - North Approach Tunnel & Related Works

Scenario: Mitigated

Area C1

DSD Culvert Diversion

Construct New Box Culvert - Loco Shed area

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe with hydraulic breaker	BS D8/13	1	110	70%	0	108
Dump Truck	BS D9/24	1	104	30%	0	99
Bar Bender and Cutter	CNP 021	1	90	30%	0	85
Concrete pump	BS D6/36	1	106	30%	0	101
Concrete Mixer Truck	BS D6/33	1	96	30%	0	91
					Overall Noise Level, dB(A)	**110**

Construct New Box Culvert - Ways & Works Workshop area

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe with hydraulic breaker	BS D8/13	1	110	70%	0	108
Dump Truck	BS D9/24	1	104	30%	0	99
Bar Bender and Cutter	CNP 021	1	90	30%	0	85
Concrete pump	BS D6/36	1	106	30%	0	101
Concrete Mixer Truck	BS D6/33	1	96	30%	0	91
					Overall Noise Level, dB(A)	**110**

Construct New Box Culvert - above SCL (MKK - HUH) Tunnels

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe with hydraulic breaker	BS D8/13	1	110	70%	0	108
Dump Truck	BS D9/24	1	104	30%	0	99
Bar Bender and Cutter	CNP 021	1	90	30%	0	85
Concrete pump	BS D6/36	1	106	30%	0	101
Concrete Mixer Truck	BS D6/33	1	96	30%	0	91
					Overall Noise Level, dB(A)	**110**

Temporary Cofferdam

Podium to Existing Culverts

Cofferdam Construction

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Pipe Pile Rigs	BS D11/2	2	112	70%	-10	103
Crawler crane	BS D7/112	1	102	30%	0	97
Grout mixer	CNP 105	1	90	50%	0	87
Grout pump	CNP 106	1	105	40%	-10	91
Air compressor	CNP 002	1	102	70%	-15	85
Drill Rig	CNP 072	1	110	50%	-10	97
Backhoe with hydraulic breaker	BS D8/13	1	110	30%	-5	100
					Overall Noise Level, dB(A)	**106**

At Existing Culverts

Cofferdam Construction (existing culvert)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Pipe Pile Rigs	BS D11/2	2	112	70%	-10	103
Crawler crane	BS D7/112	1	102	30%	0	97
Grout mixer	CNP 105	1	90	50%	0	87
Grout pump	CNP 106	1	105	40%	-10	91
Air compressor	CNP 002	1	102	70%	-15	85
Drill Rig	CNP 072	1	110	50%	-10	97
Backhoe with hydraulic breaker	BS D8/13	1	110	30%	-5	100
					Overall Noise Level, dB(A)	**106**

Appendix 1B Construction Plant Inventory

Plant Inventory for Construction Noise Assessment - North Approach Tunnel & Related Works

Scenario: Mitigated

Area C1

Excavation

Podium to Existing Culverts

Excavation & Shoring

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe	BS D3/35	1	106	70%	-5	99
Dump Truck	BS D9/24	1	104	30%	0	99
					Overall Noise Level, dB(A)	**102**

At Existing Culverts

Excavation & Shoring (existing culvert)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe	BS D3/35	1	106	70%	-5	99
Dump Truck	BS D9/24	1	104	30%	0	99
					Overall Noise Level, dB(A)	**102**

Structure Works

Podium to Existing Culverts

Concrete Structures SCL (MKK - HUH)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe	BS D3/35	1	106	30%	-5	96
Crawler crane	BS D7/112	1	102	30%	0	97
Bar Bender and Cutter	CNP 021	2	90	30%	-10	78
Concrete Mixer Truck	BS D6/33	2	96	50%	0	96
Concrete Pump Truck	BS D6/36	2	106	50%	0	106
Poker, Vibratory, Hand-held	BS D6/40	4	98	50%	0	101
					Overall Noise Level, dB(A)	**108**

At Existing Culverts

Concrete Structures SCL (MKK - HUH) (existing culvert)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe	BS D3/35	1	106	30%	-5	96
Crawler crane	BS D7/112	1	102	30%	0	97
Bar Bender and Cutter	CNP 021	2	90	30%	-10	78
Concrete Mixer Truck	BS D6/33	2	96	50%	0	96
Concrete Pump Truck	BS D6/36	2	106	50%	0	106
Poker, Vibratory, Hand-held	BS D6/40	4	98	50%	0	101
					Overall Noise Level, dB(A)	**108**

Backfilling

Podium to Existing Culverts and at above

Backfill

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe	BS D3/35	1	106	70%	-5	99
Crawler crane	BS D7/112	1	102	30%	0	97
Roller	BS D8/30	1	101	30%	0	96
Dump Truck	BS D9/24	2	104	30%	0	102
					Overall Noise Level, dB(A)	**105**

Appendix 1B Construction Plant Inventory

Plant Inventory for Construction Noise Assessment - North Approach Tunnel & Related Works

Scenario: Mitigated

Area C2

Demolish Existing Facilities

Demolish Existing STA Building

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe with Hydraulic Breaker	BS D8/13	1	110	70%	-5	103
Dump Truck	BS D9/24	1	104	30%	0	99
					Overall Noise Level, dB(A)	**105**

Temporary Cofferdam

Hung Hom Bypass Pier C2/5

Install Diaphragm Wall

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crane, mobile	BS D7/101	1	94	30%	-5	84
Rock Drill	EIA Ref.	1	108	30%	-15	88
Poker, Vibratory, Hand-held	BS D6/40	2	98	30%	0	96
Concrete lorry mixer	BS D6/33	2	96	30%	0	94
Air Compressor	CNP 002	1	102	70%	-15	85
Piling, diaphragm wall, bentonite filtering plant	CNP 162	1	105	80%	-10	94
Welder/generator	CNP107	1	99	40%	0	95
					Overall Noise Level, dB(A)	**101**

Underpinning foundation

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Excavator	BS D3/35	1	106	50%	-5	98
Concrete lorry mixer	BS D6/33	2	96	30%	0	94
Poker, Vibratory, Hand-held	BS D6/40	2	98	30%	0	96
Air Compressor	CNP 002	1	102	70%	-15	85
Crane, mobile	BS D7/101	1	94	40%	-5	85
					Overall Noise Level, dB(A)	**101**

Existing Culverts to STA Building

Cofferdam Construction

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Pipe Pile Rigs	BS D11/2	2	112	70%	-10	103
Crawler crane	BS D7/112	1	102	30%	0	97
Grout mixer	CNP 105	1	90	50%	0	87
Grout pump	CNP 106	1	105	40%	-10	91
Air compressor	CNP 002	1	102	70%	-15	85
Drill Rig	CNP 072	1	110	50%	-10	97
Backhoe with hydraulic breaker	BS D8/13	1	110	30%	-5	100
					Overall Noise Level, dB(A)	**106**

Excavation

Existing Culverts to STA Building

Excavation & Shoring

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe	BS D3/35	1	106	70%	-5	99
Dump Truck	BS D9/24	1	104	30%	0	99
					Overall Noise Level, dB(A)	**102**

Remarks:

EIA Ref. : The SWL of Rock Drill was made reference to the approved EIA Report of "Tsim Sha Tsui Station Northern Subway".

Structure Works

Existing Culverts to STA Building

Concrete Structures SCL (MKK - HUH)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe	BS D3/35	1	106	30%	-5	96
Crawler crane	BS D7/112	1	102	30%	0	97
Bar Bender and Cutter	CNP 021	2	90	30%	-10	78
Concrete Mixer Truck	BS D6/33	2	96	50%	0	96
Concrete Pump Truck	BS D6/36	2	106	50%	0	106
Poker, Vibratory, Hand-held	BS D6/40	4	98	50%	0	101
					Overall Noise Level, dB(A)	**108**

Appendix 1B Construction Plant Inventory

Plant Inventory for Construction Noise Assessment - North Approach Tunnel & Related Works

Scenario: Mitigated

Area C3A

Temporary Cofferdam

STA Building to Chatham Road North (OB2)

Cofferdam Construction

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Pipe Pile Rigs	BS D11/2	1	112	70%	-10	100
Crawler crane	BS D7/112	1	102	30%	0	97
Grout mixer	CNP 105	1	90	50%	0	87
Grout pump	CNP 106	1	105	40%	-10	91
Air compressor	CNP 002	1	102	70%	-15	85
Drill Rig	CNP 072	1	110	50%	-10	97
Backhoe with hydraulic breaker	BS D8/13	1	110	30%	-5	100
					Overall Noise Level, dB(A)	**105**

Excavation

STA Building to Chatham Road North (OB2)

Excavation & Shoring

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe	BS D3/35	1	106	70%	-5	99
Dump Truck	BS D9/24	1	104	30%	0	99
					Overall Noise Level, dB(A)	**102**

Structure Works

STA Building to Chatham Road North (OB2)

Concrete Structures SCL (MKK - HUH)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe	BS D3/35	1	106	30%	-5	96
Crawler crane	BS D7/112	1	102	30%	0	97
Bar Bender and Cutter	CNP 021	2	90	30%	-10	78
Concrete Mixer Truck	BS D6/33	2	96	50%	0	96
Concrete Pump Truck	BS D6/36	2	106	50%	0	106
Poker, Vibratory, Hand-held	BS D6/40	2	98	50%	0	98
					Overall Noise Level, dB(A)	**108**

Backfilling

STA Building to Chatham Road North (OB2)

Backfill

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe	BS D3/35	1	106	70%	-5	99
Crawler crane	BS D7/112	1	102	30%	0	97
Roller	BS D8/30	1	101	30%	0	96
Dump Truck	BS D9/24	2	104	30%	0	102
					Overall Noise Level, dB(A)	**105**

Appendix 1B Construction Plant Inventory

Plant Inventory for Construction Noise Assessment - North Approach Tunnel & Related Works

Scenario: Mitigated

Area C4A

Temporary Cofferdam

Chatham Road North (OB2) to Slip Road (OB2A)

Cofferdam Construction

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Pipe Pile Rigs	BS D11/2	1	112	70%	-10	100
Crawler crane	BS D7/112	1	102	30%	0	97
Grout mixer	CNP 105	1	90	50%	0	87
Grout pump	CNP 106	1	105	40%	-10	91
Air compressor	CNP 002	1	102	70%	-15	85
Drill Rig	CNP 072	1	110	50%	-10	97
Backhoe with hydraulic breaker	BS D8/13	1	110	30%	-5	100
					Overall Noise Level, dB(A)	**105**

Excavation

Chatham Road North (OB2) to Slip Road (OB2A)

Excavation & Shoring

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe	BS D3/35	1	106	70%	-5	99
Dump Truck	BS D9/24	1	104	30%	0	99
					Overall Noise Level, dB(A)	**102**

Structure Works

Chatham Road North (OB2) to Slip Road (OB2A)

Concrete Structures SCL (MKK - HUH)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe	BS D3/35	1	106	30%	-5	96
Crawler crane	BS D7/112	1	102	30%	0	97
Bar Bender and Cutter	CNP 021	1	90	30%	-10	75
Concrete Mixer Truck	BS D6/33	1	96	50%	0	93
Concrete Pump Truck	BS D6/36	1	106	50%	0	103
Poker, Vibratory, Hand-held	BS D6/40	2	98	50%	0	98
					Overall Noise Level, dB(A)	**106**

Backfilling

Chatham Road North (OB2) to Slip Road (OB2A)

Backfill

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe	BS D3/35	1	106	70%	-5	99
Crawler crane	BS D7/112	1	102	30%	0	97
Roller	BS D8/30	1	101	30%	0	96
Dump Truck	BS D9/24	2	104	30%	0	102
					Overall Noise Level, dB(A)	**105**

Appendix 1B Construction Plant Inventory

Plant Inventory for Construction Noise Assessment - North Approach Tunnel & Related Works

Scenario: Mitigated

Area C6

Modification/ Enabling Works/ Utilities Diversions

Existing CLP Substation

Modify Existing CLP Substation

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Lorry with crane/grab	BS D7/101	1	94	30%	-5	84
Backhoe with Hydraulic Breaker	BS D8/13	1	110	30%	-5	100
Dump Truck	BS D9/24	1	104	30%	0	99
Bar Bender and Cutter	CNP 021	1	90	30%	-10	75
Poker, Vibratory, Hand-held	BS D6/40	2	98	30%	0	96
Air Compressor	CNP 002	1	102	70%	-15	85
Concrete lorry mixer	BS D6/33	1	96	30%	0	91
					Overall Noise Level, dB(A)	**104**

Oi Sen Path Temporary Footbridge

Construct Temporary Working Platform (GL G-J)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Lorry with crane/grab	BS D7/101	1	94	30%	-5	84
					Overall Noise Level, dB(A)	**84**

Cut Back Slope and Existing Soil Nails and Install New Soil Nails (GL G-J)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Soil Nailng Machine	CNP 064	1	103	50%	0	100
Grout Mixer	CNP 105	1	90	50%	0	87
Grout Pump	CNP 106	1	105	40%	-10	91
Air Compressor	CNP 002	1	102	70%	-15	85
Hand held breaker	CNP 024	1	108	30%	-5	98
					Overall Noise Level, dB(A)	**103**

Construct Temporary Working Platform (GL E-G)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Lorry with crane/grab	BS D7/101	1	94	30%	-5	84
					Overall Noise Level, dB(A)	**84**

Cut Back Slope and Existing Soil Nails and Install New Soil Nails (GL E-G)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Soil Nailng Machine	CNP 064	1	103	50%	0	100
Grout Mixer	CNP 105	1	90	50%	0	87
Grout Pump	CNP 106	1	105	40%	-10	91
Air Compressor	CNP 002	1	102	70%	-15	85
Hand held breaker	CNP 024	1	108	30%	-5	98
					Overall Noise Level, dB(A)	**103**

Construct Temporary Working Platform (GL C-E)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Lorry with crane/grab	BS D7/101	1	94	30%	-5	84
					Overall Noise Level, dB(A)	**84**

Cut Back Slope and Existing Soil Nails and Install New Soil Nails (GL C-E)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Soil Nailng Machine	CNP 064	1	103	50%	0	100
Grout Mixer	CNP 105	1	90	50%	0	87
Grout Pump	CNP 106	1	105	40%	-10	91
Air Compressor	CNP 002	1	102	70%	-15	85
Hand held breaker	CNP 024	1	108	30%	-5	98
					Overall Noise Level, dB(A)	**103**

Construct Temporary Working Platform (GL A-C)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Lorry with crane/grab	BS D7/101	1	94	30%	-5	84
					Overall Noise Level, dB(A)	**84**

Appendix 1B Construction Plant Inventory

Plant Inventory for Construction Noise Assessment - North Approach Tunnel & Related Works

Scenario: Mitigated

Area C6

Cut Back Slope and Existing Soil Nails and Install New Soil Nails (GL A-C)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Soil Nailng Machine	CNP 064	1	103	50%	0	100
Grout Mixer	CNP 105	1	90	50%	0	87
Grout Pump	CNP 106	1	105	40%	-10	91
Air Compressor	CNP 002	1	102	70%	-15	85
Hand held breaker	CNP 024	1	108	30%	-5	98
					Overall Noise Level, dB(A)	**103**

Construct Temporary Footbridge Structure and Finishes (GL A-J)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Bar bender and Cutter	CNP 021	1	90	30%	-10	75
Poker, Vibratory, Hand-held	BS D6/40	1	98	50%	0	95
Air Compressor	CNP 002	2	102	50%	-15	87
Concrete Lorry Mixer	BS D6/33	1	96	30%	0	91
Concrete Pump	BS D6/36	1	106	30%	-10	91
Lorry with crane/grab	BS D7/101	1	94	30%	-5	84
Welder/generator	CNP107	2	99	50%	0	99
					Overall Noise Level, dB(A)	**102**

Install Mini Piles (Pier K)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Mini Piling Rig	BS D11/2	1	112	70%	-10	100
Grout Mixer	CNP 105	1	90	50%	0	87
Grout Pump	CNP 106	1	105	40%	-10	91
Air Compressor	CNP 002	1	102	70%	-15	85
					Overall Noise Level, dB(A)	**101**

Construct Pile Cap (Pier K)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Bar bender and Cutter	CNP 021	1	90	30%	-10	75
Poker, Vibratory, Hand-held	BS D6/40	1	98	50%	0	95
Air Compressor	CNP 002	1	102	50%	-15	84
Concrete Lorry Mixer	BS D6/33	1	96	30%	0	91
Concrete Pump	BS D6/36	1	106	30%	-10	91
					Overall Noise Level, dB(A)	**98**

Construct Truss Structure (Pier K)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crawler Crane	BS D7/112	1	102	30%	0	97
Welder/generator	CNP107	1	99	50%	0	96
					Overall Noise Level, dB(A)	**99**

Install Mini Piles (Pier L)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Mini Piling Rig	BS D11/2	1	112	70%	-10	100
Grout Mixer	CNP 105	1	90	50%	0	87
Grout Pump	CNP 106	1	105	40%	-10	91
Air Compressor	CNP 002	1	102	70%	-15	85
					Overall Noise Level, dB(A)	**101**

Construct Pile Cap (Pier L)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Bar bender and Cutter	CNP 021	1	90	30%	-10	75
Poker, Vibratory, Hand-held	BS D6/40	1	98	50%	0	95
Air Compressor	CNP 002	1	102	50%	-15	84
Concrete Lorry Mixer	BS D6/33	1	96	30%	0	91
Concrete Pump	BS D6/36	1	106	30%	-10	91
					Overall Noise Level, dB(A)	**98**

Construct Truss Structure (Pier L)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crawler Crane	BS D7/112	1	102	30%	0	97
Welder/generator	CNP107	1	99	50%	0	96
					Overall Noise Level, dB(A)	**99**

Appendix 1B Construction Plant Inventory

Plant Inventory for Construction Noise Assessment - North Approach Tunnel & Related Works

Scenario: Mitigated

Area C6

Install Mini Piles (Pier M)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Mini Piling Rig	BS D11/2	1	112	70%	-10	100
Grout Mixer	CNP 105	1	90	50%	0	87
Grout Pump	CNP 106	1	105	40%	-10	91
Air Compressor	CNP 002	1	102	70%	-15	85
					Overall Noise Level, dB(A)	**101**

Construct Pile Cap (Pier M)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Bar bender and Cutter	CNP 021	1	90	30%	-10	75
Poker, Vibratory, Hand-held	BS D6/40	1	98	50%	0	95
Air Compressor	CNP 002	1	102	50%	-15	84
Concrete Lorry Mixer	BS D6/33	1	96	30%	0	91
Concrete Pump	BS D6/36	1	106	30%	-10	91
					Overall Noise Level, dB(A)	**98**

Construct Truss Structure (Pier M)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crawler Crane	BS D7/112	1	102	30%	0	97
Welder/generator	CNP107	1	99	50%	0	96
					Overall Noise Level, dB(A)	**99**

Install Mini Piles (Pier N)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Mini Piling Rig	BS D11/2	1	112	70%	-10	100
Grout Mixer	CNP 105	1	90	50%	0	87
Grout Pump	CNP 106	1	105	40%	-10	91
Air Compressor	CNP 002	1	102	70%	-15	85
					Overall Noise Level, dB(A)	**101**

Construct Pile Cap (Pier N)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Bar bender and Cutter	CNP 021	1	90	30%	-10	75
Poker, Vibratory, Hand-held	BS D6/40	1	98	50%	0	95
Air Compressor	CNP 002	1	102	50%	-15	84
Concrete Lorry Mixer	BS D6/33	1	96	30%	0	91
Concrete Pump	BS D6/36	1	106	30%	-10	91
					Overall Noise Level, dB(A)	**98**

Construct Truss Structure (Pier N)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crawler Crane	BS D7/112	1	102	30%	0	97
Welder/generator	CNP107	1	99	50%	0	96
					Overall Noise Level, dB(A)	**99**

Install Mini Piles (Pier P)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Mini Piling Rig	BS D11/2	1	112	70%	-10	100
Grout Mixer	CNP 105	1	90	50%	0	87
Grout Pump	CNP 106	1	105	40%	-10	91
Air Compressor	CNP 002	1	102	70%	-15	85
					Overall Noise Level, dB(A)	**101**

Construct Pile Cap (Pier P)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Bar bender and Cutter	CNP 021	1	90	30%	-10	75
Poker, Vibratory, Hand-held	BS D6/40	1	98	50%	0	95
Air Compressor	CNP 002	1	102	50%	-15	84
Concrete Lorry Mixer	BS D6/33	1	96	30%	0	91
Concrete Pump	BS D6/36	1	106	30%	-10	91
					Overall Noise Level, dB(A)	**98**

Appendix 1B Construction Plant Inventory

Plant Inventory for Construction Noise Assessment - North Approach Tunnel & Related Works

Scenario: Mitigated

Area C6

Construct Truss Structure (Pier P)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crawler Crane	BS D7/112	1	102	30%	0	97
Welder/generator	CNP107	1	99	50%	0	96
					Overall Noise Level, dB(A)	**99**

Construct Temporary Footbridge Structure and Finishes (GL J-O)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crawler Crane	BS D7/112	1	102	30%	0	97
Welder/generator	CNP107	1	99	50%	0	96
Dump Truck	BS D9/24	1	104	30%	0	99
Concrete Lorry Mixer	BS D6/33	1	96	30%	0	91
Concrete Pump	BS D6/36	1	106	30%	-10	91
					Overall Noise Level, dB(A)	**103**

Construct Pile Cap (GL O-R)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Bar bender and Cutter	CNP 021	1	90	30%	-10	75
Poker, Vibratory, Hand-held	BS D6/40	1	98	50%	0	95
Air Compressor	CNP 002	1	102	50%	-15	84
Concrete Lorry Mixer	BS D6/33	1	96	30%	0	91
Concrete Pump	BS D6/36	1	106	30%	-10	91
					Overall Noise Level, dB(A)	**98**

Construct Truss Structure (GL O-R)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crawler Crane	BS D7/112	1	102	30%	0	97
Welder/generator	CNP107	2	99	50%	0	99
Dump Truck	BS D9/24	1	104	30%	0	99
					Overall Noise Level, dB(A)	**103**

Construct Temporary Footbridge Structure and Finishes (GL O-R)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Bar bender and Cutter	CNP 021	1	90	30%	-10	75
Poker, Vibratory, Hand-held	BS D6/40	1	98	50%	0	95
Air Compressor	CNP 002	1	102	50%	-15	84
Concrete Lorry Mixer	BS D6/33	1	96	30%	0	91
Concrete Pump	BS D6/36	1	106	30%	-10	91
					Overall Noise Level, dB(A)	**98**

Complete Footpath and Finishes (GL R-T)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crane Lorry	BS D7/101	1	94	70%	0	92
Concrete Lorry Mixer	BS D6/33	1	96	30%	0	91
					Overall Noise Level, dB(A)	**95**

Appendix 1B Construction Plant Inventory

Plant Inventory for Construction Noise Assessment - North Approach Tunnel & Related Works

Scenario: Mitigated

Area C6

Chatham Road North Slip Road Overbridge (OB2A)

Site Clearance and Hoarding and Utility diversion

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Excavator	BS D3/35	1	106	60%	-5	99
Air Compressor	CNP 002	1	102	50%	-15	84
Hand held breaker	CNP 024	1	108	50%	-5	100
Lorry with crane/grab	CNP 145	1	105	60%	-5	98
Welder/generator	CNP107	1	99	40%	0	95
					Overall Noise Level, dB(A)	**104**

Foundations for Temporary OB2A (Piling & Pier)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Excavator	BS D3/35	1	106	60%	-5	99
Piling, large diameterbored, grab and chisel	CNP 164	1	115	30%	-10	100
Pipe Pile Rigs	BS D11/2	1	112	30%	-10	97
Air Compressor	CNP 002	1	102	50%	-15	84
Lorry with crane/grab	CNP 145	1	105	60%	-5	98
Poker, Vibratory, Hand-held	BS D6/40	2	98	30%	0	96
Concrete lorry mixer	BS D6/33	2	96	30%	0	94
					Overall Noise Level, dB(A)	**105**

Deck Construction for Temporary OB2A

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crane, mobile	BS D7/101	1	94	50%	-5	86
Air Compressor	CNP 002	1	102	70%	-15	85
Poker, Vibratory, Hand-held	BS D6/40	2	98	30%	0	96
Concrete lorry mixer	BS D6/33	1	96	30%	0	91
Concrete pump	BS D6/36	1	106	30%	-10	91
Welder/generator	CNP107	1	99	40%	0	95
					Overall Noise Level, dB(A)	**100**

Demolish Deck of Existing OB2A

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crane, mobile	BS D7/101	1	94	30%	-5	84
Air Compressor	CNP 002	1	102	70%	-15	85
Saw, Concrete	CNP 203	1	115	50%	-10	102
Hand held breaker	CNP 024	1	108	70%	-5	101
					Overall Noise Level, dB(A)	**105**

Construction of New OB2A Pile & Pile Cap

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Excavator	BS D3/35	1	106	50%	-5	98
Piling, large diameterbored, grab and chisel	CNP 164	1	115	80%	-10	104
Dump truck	BS D9/24	1	104	30%	0	99
Poker, Vibratory, Hand-held	BS D6/40	2	98	30%	0	96
Air Compressor	CNP 002	1	102	50%	-15	84
Concrete lorry mixer	BS D6/33	2	96	30%	0	94
Crane, mobile	BS D7/101	1	94	60%	-5	87
					Overall Noise Level, dB(A)	**107**

Appendix 1B Construction Plant Inventory

Plant Inventory for Construction Noise Assessment - North Approach Tunnel & Related Works

Scenario: Mitigated

Area C6

Construction of New OB2A Abutment & Bridge Deck

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Excavator	BS D3/35	1	106	70%	-5	99
Dump truck	BS D9/24	1	104	80%	0	103
Power Rammer (petrol)	CNP169	1	108	100%	0	108
Asphalt paver	BS D8/24	1	101	30%	-5	91
					Overall Noise Level, dB(A)	**110**

OB2A Reinstatement

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Excavator	BS D3/35	1	106	70%	-5	99
Dump truck	BS D9/24	1	104	80%	0	103
Asphalt paver	BS D8/24	1	101	30%	-5	91
Road roller	BS D8/30	1	101	30%	0	96
Welder/generator	CNP107	1	99	40%	0	95
					Overall Noise Level, dB(A)	**106**

Temporary OB2A Removal

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Excavator	BS D3/35	1	106	70%	-5	99
Dump truck	BS D9/24	1	104	80%	0	103
Asphalt paver	BS D8/24	1	101	30%	-5	91
Road roller	BS D8/30	1	101	30%	0	96
Welder/generator	CNP107	1	99	40%	0	95
					Overall Noise Level, dB(A)	**106**

OB2A Pedestrian Subway

Site Clearance and Hoarding and Utility diversion

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Excavator	BS D3/35	1	106	60%	-5	99
Air Compressor	CNP 002	1	102	50%	-15	84
Hand held breaker	CNP 024	1	108	50%	-5	100
Lorry with crane/grab	CNP 145	1	105	60%	-5	98
Welder/generator	CNP107	1	99	40%	0	95
					Overall Noise Level, dB(A)	**104**

Demolish Existing Box Structure of OB2A Pedestrian Subway

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Excavator	BS D3/35	1	106	100%	-5	101
Hydraulic breaker	BS D8/13	1	110	80%	-5	104
Saw, Concrete	CNP 203	1	115	50%	-10	102
Air compressor	CNP 002	1	102	70%	-15	85
Lorry with crane/grab	CNP 145	1	105	100%	-5	100
Welder/generator	CNP107	1	99	40%	0	95
					Overall Noise Level, dB(A)	**108**

OB2A Pedestrian Subway Reinstatement

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Excavator	BS D3/35	1	106	50%	-5	98
Concrete lorry mixer	BS D6/33	2	96	50%	0	96
Poker, Vibratory, Hand-held	BS D6/40	2	98	70%	0	99
Air Compressor	CNP 002	1	102	70%	-15	85
Concrete lorry mixer	BS D6/33	1	96	30%	0	91
					Overall Noise Level, dB(A)	**103**

Appendix 1B Construction Plant Inventory

Plant Inventory for Construction Noise Assessment - North Approach Tunnel & Related Works

Scenario: Mitigated

Area C6

Oi Sen Path Works *

Pedestrian Diversion Works

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Mini Piling Rig	BS D11/2	1	112	70%	-10	100
Grout mixer	CNP 105	1	90	50%	0	87
Grout pump	CNP 106	1	105	40%	-10	91
Air compressor	CNP 002	1	102	70%	-15	85
Drill Rig	CNP 072	1	110	50%	-10	97
Backhoe with hydraulic breaker	BS D8/13	1	110	30%	-5	100
Mobile Crane	BS D7/101	1	94	50%	-5	86
Bar Bender and Cutter	CNP 021	1	90	30%	-10	75
Concrete Mixer Truck	BS D6/33	1	96	30%	0	91
Concrete Pump Truck	BS D6/36	1	106	30%	0	101
Poker, Vibratory, Hand-held	BS D6/40	2	98	30%	0	96
					Overall Noise Level, dB(A)	**107**

Relocate CLP cable

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Drill Rig	CNP 072	1	110	50%	-10	97
Grout mixer	CNP 105	1	90	50%	0	87
Grout pump	CNP 106	1	105	40%	-10	91
Air compressor	CNP 002	1	102	70%	-15	85
Backhoe with hydraulic breaker	BS D8/13	1	110	30%	-5	100
Hydraulic Rock splitter	BS D8/13	1	110	30%	0	105
					Overall Noise Level, dB(A)	**107**

Soil Nailing

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Soil Nailng machine	CNP 064	1	103	50%	0	100
Grout mixer	CNP 105	1	90	50%	0	87
Grout pump	CNP 106	1	105	40%	-10	91
Air compressor	CNP 002	1	102	70%	-15	85
					Overall Noise Level, dB(A)	**101**

Retaining wall

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Pipe Pile Rigs	BS D11/2	1	112	70%	-10	100
Grout mixer	CNP 105	1	90	50%	0	87
Grout pump	CNP 106	1	105	40%	-10	91
Air compressor	CNP 002	1	102	70%	-15	85
Backhoe with hydraulic breaker	BS D8/13	1	110	60%	-5	103
					Overall Noise Level, dB(A)	**105**

Slope Cut

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Pipe Pile Rigs	BS D11/2	1	112	70%	-10	100
Grout mixer	CNP 105	1	90	50%	0	87
Grout pump	CNP 106	1	105	40%	-10	91
Air compressor	CNP 002	1	102	70%	-15	85
Backhoe with hydraulic breaker	BS D8/13	1	110	60%	-5	103
					Overall Noise Level, dB(A)	**105**

Reinstate Oi Sen Path

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Hydraulic Excavator	BS D3/35	1	106	60%	-5	99
Dump truck	BS D9/24	1	104	60%	0	102
Asphalt paver	BS D8/24	1	101	50%	-5	93
Road roller	BS D8/30	1	101	50%	0	98
Concrete Mixer Truck	BS D6/33	1	96	30%	0	91
					Overall Noise Level, dB(A)	**105**

Note:
* For Carmel Secondary School (OM4a), topography screening effect has been included in the calculation and thus the barrier effect is not applied for the Oi Sen Path Work.

Appendix 1B Construction Plant Inventory

Plant Inventory for Construction Noise Assessment - North Approach Tunnel & Related Works

Scenario: Mitigated

Area C6

Temporary Cofferdam

Between OB2 and OB2A

Temporary Retaining Wall

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Pipe Pile Rigs	BS D11/2	1	112	70%	-10	100
Grout mixer	CNP 105	1	90	50%	0	87
Grout pump	CNP 106	1	105	40%	-10	91
Air compressor	CNP 002	1	102	70%	-15	85
Drill Rig	CNP 072	1	110	50%	-10	97
Backhoe with hydraulic breaker	BS D8/13	1	110	30%	-5	100
					Overall Noise Level, dB(A)	**104**

North of OB2A

Sheet Piled Wall

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crawler crane	BS D7/112	1	102	50%	0	99
Vibratory Hammer	BS D4/53	1	118	70%	-10	106
Backhoe with hydraulic breaker	BS D8/13	1	110	30%	-5	100
					Overall Noise Level, dB(A)	**108**

At Temporary OB2A *

Sheet Piled Wall

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crawler crane	BS D7/112	1	102	50%	0	99
Vibratory Hammer	BS D4/53	1	118	70%	-10	106
Backhoe with hydraulic breaker	BS D8/13	1	110	30%	-5	100
					Overall Noise Level, dB(A)	**108**

Excavation

Between OB2 and OB2A

Excavation & Shoring

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe	BS D3/35	1	106	70%	-5	99
Dump Truck	BS D9/24	1	104	30%	0	99
					Overall Noise Level, dB(A)	**102**

North of OB2A

Excavation & Shoring (existing culvert)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe	BS D3/35	1	106	70%	-5	99
Dump Truck	BS D9/24	1	104	30%	0	99
					Overall Noise Level, dB(A)	**102**

At Temporary OB2A *

Excavation & Shoring (existing culvert)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe	BS D3/35	1	106	70%	-5	99
Dump Truck	BS D9/24	1	104	30%	0	99
					Overall Noise Level, dB(A)	**102**

Note:

* For Carmel Secondary School (OM4a), topography screening effect has been included in the calculation and thus the barrier effect is not applied for the Tunnel Works at Temporary OB2A area (Work site ID C6c in Appendix 6.3A refers).

Appendix 1B Construction Plant Inventory

Plant Inventory for Construction Noise Assessment - North Approach Tunnel & Related Works

Scenario: Mitigated

Area C6

Structure Works

Between OB2 and OB2A

Concrete Structures

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe	BS D3/35	1	106	30%	-5	96
Crawler crane	BS D7/112	1	102	30%	0	97
Bar Bender and Cutter	CNP 021	2	90	30%	-10	78
Concrete Mixer Truck	BS D6/33	1	96	50%	0	93
Concrete Pump Truck	BS D6/36	2	106	50%	0	106
Poker, Vibratory, Hand-held	BS D6/40	2	98	50%	0	98
					Overall Noise Level, dB(A)	**108**

North of OB2A

Concrete Structures

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe	BS D3/35	1	106	30%	-5	96
Bar Bender and Cutter	CNP 021	2	90	30%	-10	78
Concrete Mixer Truck	BS D6/33	2	96	50%	0	96
Concrete Pump Truck	BS D6/36	1	106	50%	0	103
Poker, Vibratory, Hand-held	BS D6/40	2	98	50%	0	98
					Overall Noise Level, dB(A)	**105**

At Temporary OB2A *

Concrete Structures

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe	BS D3/35	1	106	30%	-5	96
Bar Bender and Cutter	CNP 021	2	90	30%	-10	78
Concrete Mixer Truck	BS D6/33	2	96	50%	0	96
Concrete Pump Truck	BS D6/36	1	106	50%	0	103
Poker, Vibratory, Hand-held	BS D6/40	2	98	50%	0	98
					Overall Noise Level, dB(A)	**105**

Backfilling

OB2 to Temporary OB2A *

Backfill

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe	BS D3/35	1	106	70%	-5	99
Crawler crane	BS D7/112	1	102	30%	0	97
Roller	BS D8/30	1	101	30%	0	96
Dump Truck	BS D9/24	2	104	30%	0	102
					Overall Noise Level, dB(A)	**105**

Note:

* For Carmel Secondary School (OM4a), topography screening effect has been included in the calculation and thus the barrier effect is not applied for the Tunnel Works at temporary OB2A area (Work site ID C6c in Appendix 6.3A refers).

Appendix 1B Construction Plant Inventory

Plant Inventory for Construction Noise Assessment - New EVA

Scenario: Mitigated

New EVA

New EVA

Complete EVA between Hung Hom Station and Winslow Street

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe	BS D3/35	2	106	70%	-5	102
Dump Truck	BS D9/24	2	104	30%	0	102
Crawler crane	BS D7/112	1	102	30%	0	97
Roller	BS D8/30	1	101	40%	0	97
Air Compressor	CNP 002	1	102	70%	-15	85
Crane Lorry	BS D7/101	1	94	70%	0	92.4509804
					Overall Noise Level, dB(A)	**106**

Construct EVA Under HUH Podium

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe	BS D3/35	2	106	50%	-5	101
Dump Truck	BS D9/24	2	104	30%	0	102
Crane Lorry	BS D7/101	1	94	50%	0	91
Roller	BS D8/30	1	101	30%	0	96
Air Compressor	CNP 002	1	102	50%	-15	84
Concrete Lorry Mixer	BS D6/33	2	96	30%	0	94
Poker, Vibratory, Hand-held	BS D6/40	2	98	50%	0	98
					Overall Noise Level, dB(A)	**106**

Appendix 1B Construction Plant Inventory

Plant Inventory for Construction Noise Assessment - Homantin Siding

Scenario: Mitigated

Homantin Siding

Loco Siding @HKPolyU Building

Removal of Existing Tracks

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crane	BS D7/101	1	94	70%	-5	87
Backhoe with Hydraulic Breaker	BS D8/13	1	110	30%	-5	100
Lorry	BS D9/19	1	102	30%	0	97
					Overall Noise Level, dB(A)	**102**

Decking Across Culvert

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Piling Rig	BS D11/2	1	112	30%	-10	97
Air Compressor	CNP 002	1	102	50%	-15	84
Lorry with crane/grab	BS D7/101	1	94	60%	-5	87
Poker, Vibratory, Hand-held	BS D6/40	1	98	30%	0	93
Concrete lorry mixer	BS D6/33	1	96	30%	0	91
					Overall Noise Level, dB(A)	**99**

Office / Store construction

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Excavator	BS D3/35	1	106	30%	-5	96
Lorry with crane/grab	BS D7/101	2	94	30%	-5	87
Bar Bender and Cutter	CNP 021	1	90	30%	-10	75
Poker, Vibratory, Hand-held	BS D6/40	2	98	30%	0	96
Air Compressor	CNP 002	2	102	70%	-15	88
Concrete lorry mixer	BS D6/33	1	96	30%	0	91
					Overall Noise Level, dB(A)	**100**

EVA construction

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Excavator	BS D3/35	1	106	30%	-5	96
Lorry with crane/grab	BS D7/101	2	94	30%	-5	87
Bar Bender and Cutter	CNP 021	1	90	30%	-10	75
Poker, Vibratory, Hand-held	BS D6/40	2	98	30%	0	96
Air Compressor	CNP 002	2	102	70%	-15	88
Concrete lorry mixer	BS D6/33	1	96	30%	0	91
					Overall Noise Level, dB(A)	**100**

Track Laying to HKPolyU

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crane	BS D7/101	1	94	70%	-5	87
Backhoe with Hydraulic Breaker	BS D8/13	1	110	30%	-5	100
Lorry	BS D9/19	1	102	30%	0	97
					Overall Noise Level, dB(A)	**102**

Appendix 1B Construction Plant Inventory

Plant Inventory for Construction Noise Assessment - North Approach Tunnel & Related Works

Scenario: Mitigated

Worksite S2

Tunnel - Area C2

Cocrete Structures EWL

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crawler / Excavator Loader	CNP 082	1	94	30%	-5	84
Dump truck	BS D9/24	1	104	30%	-5	94
Tracked Crane	BS D7/114	1	101	30%	-5	91
Bar Bender	CNP 021	2	90	30%	0	88
Concrete Lorry Mixer	CNP 044	2	109	50%	-5	104
Lorry mounted concrete pump	BS D6/34	2	107	50%	-5	102
Concrete Poker Vibrator	BS D6/40	4	98	50%	-5	96
				Overall Noise Level, dB(A)		**107**

Appendix 1B Construction Plant Inventory

Plant Inventory for Construction Noise Assessment - North Approach Tunnel & Related Works

Scenario: Mitigated

Worksite S3a

Tunnel - Area C3B (STA building to Chatham Road North (OB2))

Temporary Cofferdam EWL

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crawler Drill	BS D4/44	1	109	70%	-10	97
Grout Mixer	CNP 105	1	90	50%	-5	82
Grout Pump	CNP 106	1	105	40%	-5	96
Compressor (sound reduced)	BS D7/44	1	103	70%	-10	91
Drill Rig	CNP 072	1	110	50%	-5	102
Backhoe with Hydraulic Breaker	BS D8/13	1	110	30%	-5	100
					Overall Noise Level, dB(A)	**106**

Excavation & Shoring EWL

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crawler / Excavator Loader	CNP 082	1	94	70%	-5	87
Dump truck	BS D9/24	1	104	30%	-5	94
					Overall Noise Level, dB(A)	**95**

Concrete Structures EWL

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crawler / Excavator Loader	CNP 082	1	94	30%	-5	84
Tracked Crane	BS D7/114	1	101	30%	-5	91
Bar Bender	CNP 021	1	90	30%	0	85
Concrete Lorry Mixer	CNP 044	1	109	50%	-5	101
Lorry mounted concrete pump	BS D6/34	1	107	50%	-5	99
Concrete Poker Vibrator	BS D6/40	1	98	50%	-5	90
					Overall Noise Level, dB(A)	**104**

Appendix 1B Construction Plant Inventory

Plant Inventory for Construction Noise Assessment - North Approach Tunnel & Related Works

Scenario: Mitigated

Worksite S3b

Tunnel - Area C3B (Winslow Street to Chatham Road North)

Stage 1 Across Rd Cofferdam Construction

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crawler Drill	BS D4/44	1	109	70%	-10	97
Grout Mixer	CNP 105	1	90	50%	-5	82
Grout Pump	CNP 106	1	105	40%	-5	96
Compressor (sound reduced)	BS D7/44	1	103	70%	-10	91
Drill Rig	CNP 072	1	110	50%	-5	102
Backhoe with Hydraulic Breaker	BS D8/13	1	110	30%	-5	100
					Overall Noise Level, dB(A)	**106**

Excavation

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crawler / Excavator Loader	CNP 082	1	94	70%	-5	87
Dump truck	BS D9/24	1	104	30%	-5	94
					Overall Noise Level, dB(A)	**95**

Structure EWL (Winslow St.) - Stage 1

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crawler / Excavator Loader	CNP 082	1	94	30%	-5	84
Tracked Crane	BS D7/114	1	101	30%	-5	91
Bar Bender	CNP 021	2	90	30%	0	88
Concrete Lorry Mixer	CNP 044	2	109	50%	-5	104
Lorry mounted concrete pump	BS D6/34	1	107	50%	-5	99
Concrete Poker Vibrator	BS D6/40	4	98	50%	-5	96
					Overall Noise Level, dB(A)	**106**

Stage 2 Across Rd Cofferdam Construction

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crawler Drill	BS D4/44	1	109	70%	-10	97
Grout Mixer	CNP 105	1	90	50%	-5	82
Grout Pump	CNP 106	1	105	40%	-5	96
Compressor (sound reduced)	BS D7/44	1	103	70%	-10	91
Drill Rig	CNP 072	1	110	50%	-5	102
Backhoe with Hydraulic Breaker	BS D8/13	1	110	30%	-5	100
					Overall Noise Level, dB(A)	**106**

Stage 3 Across Rd Cofferdam Construction

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crawler Drill	BS D4/44	1	109	70%	-10	97
Grout Mixer	CNP 105	1	90	50%	-5	82
Grout Pump	CNP 106	1	105	40%	-5	96
Compressor (sound reduced)	BS D7/44	1	103	70%	-10	91
Drill Rig	CNP 072	1	110	50%	-5	102
Backhoe with Hydraulic Breaker	BS D8/13	1	110	30%	-5	100
					Overall Noise Level, dB(A)	**106**

Excavation

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crawler / Excavator Loader	CNP 082	1	94	70%	-5	87
Dump truck	BS D9/24	1	104	30%	-5	94
					Overall Noise Level, dB(A)	**95**

Structure EWL (Winslow St.) - Stage 3

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crawler / Excavator Loader	CNP 082	1	94	30%	-5	84
Tracked Crane	BS D7/114	1	101	30%	-5	91
Bar Bender	CNP 021	2	90	30%	0	88
Concrete Lorry Mixer	CNP 044	2	109	50%	-5	104
Lorry mounted concrete pump	BS D6/34	1	107	50%	-5	99
Concrete Poker Vibrator	BS D6/40	4	98	50%	-5	96
					Overall Noise Level, dB(A)	**106**

Reinstate Winslow St.

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Hydraulic extractor	CNP 163	1	90	60%	-5	83
Dump truck	BS D9/24	1	104	60%	-5	97
Asphalt spreader	BS D8/24	1	101	50%	-5	93
Road Roller	BS D8/30	1	101	50%	-5	93
Oversite concreting Truck mixer	BS D6/23	1	100	30%	-5	90
					Overall Noise Level, dB(A)	**100**

Traffic Diversion Works (Winslow St)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crawler / Excavator Loader	CNP 082	1	94	30%	-5	84
Tracked Crane	BS D7/114	1	101	30%	-5	91
Bar Bender	CNP 021	2	90	30%	0	88
Concrete Lorry Mixer	CNP 044	2	109	50%	-5	104
Lorry mounted concrete pump	BS D6/34	1	107	50%	-5	99
Concrete Poker Vibrator	BS D6/40	4	98	50%	-5	96
					Overall Noise Level, dB(A)	**106**

Appendix 1B Construction Plant Inventory

Plant Inventory for Construction Noise Assessment - North Approach Tunnel & Related Works

Scenario: Mitigated

Worksite S4a

Tunnel - Area C4A

Site Clearance and Hoarding and Utility diversion

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe	BS D3/35	1	106	60%	-5	99
Compressor (sound reduced)	BS D7/44	1	103	50%	-10	90
Wheeled excavator / loader fitted with hydraulic rock breaker	BS D8/12	1	106	50%	-5	98
Flat Bed Lorry	BS D9/19	1	102	60%	-5	95
Welding Set	CNP 107	1	99	40%	-5	90
					Overall Noise Level, dB(A)	**103**

Temp CHRN Foundation

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe	BS D3/35	1	106	60%	-5	99
Trenching machine	BS D3/106	1	105	30%	-10	90
Crawler Drill	BS D4/44	1	109	30%	-10	94
Compressor (sound reduced)	BS D7/44	1	103	50%	-10	90
Flat Bed Lorry	BS D9/19	1	102	60%	-5	95
Concrete Poker Vibrator	BS D6/40	1	98	30%	-5	88
Oversite concreting Truck mixer	BS D6/23	1	100	30%	-5	90
					Overall Noise Level, dB(A)	**102**

Deck for TB1

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Tracked Crane	BS D7/114	1	101	50%	-5	93
Compressor (sound reduced)	BS D7/44	1	103	70%	-10	91
Concrete Poker Vibrator	BS D6/40	1	98	30%	-5	88
Oversite concreting Truck mixer	BS D6/23	1	100	30%	-5	90
Lorry mounted concrete pump	BS D6/34	1	107	30%	-5	97
Welding Set	CNP 107	1	99	40%	-5	90
					Overall Noise Level, dB(A)	**100**

Existing Bridge Deck Removal

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Tracked Crane	BS D7/114	1	101	30%	-5	91
Compressor (sound reduced)	BS D7/44	1	103	70%	-10	91
Saw, concrete	CNP 203	1	115	50%	-5	107
Wheeled excavator / loader fitted with hydraulic rock breaker	BS D8/12	1	106	70%	-5	99
					Overall Noise Level, dB(A)	**108**

Construction of new western abutment

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe	BS D3/35	1	106	50%	-5	98
Trenching machine	BS D3/106	1	105	80%	-10	94
Dump truck	BS D9/24	1	104	30%	-5	94
Concrete Poker Vibrator	BS D6/40	1	98	30%	-5	88
Compressor (sound reduced)	BS D7/44	1	103	50%	-10	90
Oversite concreting Truck mixer	BS D6/23	1	100	30%	-5	90
Tracked Crane	BS D7/114	1	101	60%	-5	94
					Overall Noise Level, dB(A)	**102**

Bridge Reinstatement

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe	BS D3/35	1	106	70%	-5	99
Dump truck	BS D9/24	1	104	80%	-5	98
Power Rammer (petrol)	CNP 169	1	108	100%	-5	103
Asphalt spreader	BS D8/24	1	101	30%	-5	91
					Overall Noise Level, dB(A)	**106**

Demolish Temp CHRN

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe	BS D3/35	1	106	70%	-5	99
Dump truck	BS D9/24	1	104	80%	-5	98
Asphalt spreader	BS D8/24	1	101	30%	0	96
Road Roller	BS D8/30	1	101	30%	-5	91
Welding Set	CNP 107	1	99	40%	-5	90
					Overall Noise Level, dB(A)	**103**

Reinstate Winslow St.

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Tracked Crane	BS D7/114	1	101	30%	-5	91
Compressor (sound reduced)	BS D7/44	1	103	70%	-10	91
Saw, concrete	CNP 203	1	115	50%	-5	107
Wheeled excavator / loader fitted with hydraulic rock breaker	BS D8/12	1	106	70%	-5	99
					Overall Noise Level, dB(A)	**108**

Appendix 1B Construction Plant Inventory

Plant Inventory for Construction Noise Assessment - North Approach Tunnel & Related Works

Scenario: Mitigated

Worksite S4b

Tunnel - Area C4B

Temporary Cofferdam EWL

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crawler Drill	BS D4/44	1	109	70%	-10	97
Tracked Crane	BS D7/114	1	101	30%	-5	91
Grout Mixer	CNP 105	1	90	50%	-5	82
Grout Pump	CNP 106	1	105	40%	-5	96
Air Compressor	CNP 003	1	104	70%	-10	92
Drill Rig	CNP 072	1	110	50%	-5	102
Backhoe with Hydraulic Breaker	BS D8/13	1	110	30%	-5	100
					Overall Noise Level, dB(A)	**106**

Excavation

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crawler / Excavator Loader	CNP 082	1	94	70%	-5	87
Dump truck	BS D9/24	1	104	30%	-5	94
					Overall Noise Level, dB(A)	**95**

Concrete Structures EWL

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crawler / Excavator Loader	CNP 082	1	94	30%	-5	84
Tracked Crane	BS D7/114	1	101	30%	-5	91
Bar Bender	CNP 021	2	90	30%	0	88
Concrete Lorry Mixer	CNP 044	2	109	50%	-5	104
Lorry mounted concrete pump	BS D6/34	1	107	50%	-5	99
Concrete Poker Vibrator	BS D6/40	4	98	50%	-5	96
					Overall Noise Level, dB(A)	**106**

Re-align Slip road OB2A

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe	BS D3/35	1	106	70%	-5	99
Dump truck	BS D9/24	1	104	80%	-5	98
Power Rammer (petrol)	CNP 169	1	108	100%	-5	103
Asphalt spreader	BS D8/24	1	101	30%	-5	91
					Overall Noise Level, dB(A)	**106**

Divert Slip road Winslow St. underpass

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Backhoe	BS D3/35	1	106	70%	-5	99
Dump truck	BS D9/24	1	104	80%	-5	98
Power Rammer (petrol)	CNP 169	1	108	100%	-5	103
Asphalt spreader	BS D8/24	1	101	30%	-5	91
					Overall Noise Level, dB(A)	**106**

Appendix 1B Construction Plant Inventory

Plant Inventory for Construction Noise Assessment - North Approach Tunnel & Related Works

Scenario: Mitigated

Worksite S5

Tunnel - Area C5

Temporary Cofferdam EWL before Temp CHRN diversion

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crawler Drill	BS D4/44	1	109	70%	-10	97
Grout Mixer	CNP 105	1	90	50%	-5	82
Grout Pump	CNP 106	1	105	40%	-5	96
Compressor (sound reduced)	BS D7/44	1	103	70%	-10	91
Drill Rig	CNP 072	1	110	50%	-5	102
Backhoe with Hydraulic Breaker	BS D8/13	1	110	30%	-5	100
					Overall Noise Level, dB(A)	**106**

Excavation & strutting to EWL formation

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crawler / Excavator Loader	CNP 082	1	94	70%	-5	87
Dump truck	BS D9/24	1	104	30%	-5	94
					Overall Noise Level, dB(A)	**95**

Concrete Structures EWL

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crawler / Excavator Loader	CNP 082	1	94	30%	-5	84
Tracked Crane	BS D7/114	1	101	30%	-5	91
Bar Bender	CNP 021	2	90	30%	0	88
Concrete Lorry Mixer	CNP 044	2	109	50%	-5	104
Lorry mounted concrete pump	BS D6/34	1	107	50%	-5	99
Concrete Poker Vibrator	BS D6/40	2	98	50%	-5	93
					Overall Noise Level, dB(A)	**106**

Temporary Cofferdam EWL (after slip rd re-instate)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crawler Drill	BS D4/44	1	109	70%	-10	97
Grout Mixer	CNP 105	1	90	50%	-5	82
Grout Pump	CNP 106	1	105	40%	-5	96
Compressor (sound reduced)	BS D7/44	1	103	70%	-10	91
Drill Rig	CNP 072	1	110	50%	-5	102
Backhoe with Hydraulic Breaker	BS D8/13	1	110	30%	-5	100
					Overall Noise Level, dB(A)	**106**

Excavation % strutting EWL (after slip rd re-instate)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crawler / Excavator Loader	CNP 082	1	94	70%	-5	87
Dump truck	BS D9/24	1	104	30%	-5	94
					Overall Noise Level, dB(A)	**95**

Concrete Structures EWL (after slip rd re-instate)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crawler / Excavator Loader	CNP 082	1	94	30%	-5	84
Tracked Crane	BS D7/114	1	101	30%	-5	91
Bar Bender	CNP 021	2	90	30%	0	88
Concrete Lorry Mixer	CNP 044	2	109	50%	-5	104
Lorry mounted concrete pump	BS D6/34	1	107	50%	-5	99
Concrete Poker Vibrator	BS D6/40	4	98	50%	-5	96
					Overall Noise Level, dB(A)	**106**

Backfill EWL (after slip rd re-instate)

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Crawler / Excavator Loader	CNP 082	1	94	70%	-5	87
Tracked Crane	BS D7/114	1	101	30%	-5	91
Road Roller	BS D8/30	1	101	30%	-5	91
Dump truck	BS D9/24	2	104	30%	-5	97
					Overall Noise Level, dB(A)	**99**

Appendix 1B Construction Plant Inventory

Plant Inventory for Construction Noise Assessment - North Approach Tunnel & Related Works

Scenario: Mitigated

Worksite S17

Hung Hom Sidings Shunt Neck Area 2

Construction of Tracks

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Tracked Crane	BS D7/114	1	101	30%	-5	91
Bar Bender	CNP 021	1	90	30%		85
Concrete Poker Vibrator	BS D6/40	1	98	50%		95
Air Compressor	CNP 002	1	102	50%	-10	89
Oversite concreting Truck mixer	BS D6/23	1	100	30%	-5	90
Lorry mounted concrete pump	BS D6/34	1	107	30%	-5	97
					Overall Noise Level, dB(A)	**100**

Appendix 1B Construction Plant Inventory

Plant Inventory for Construction Noise Assessment - North Approach Tunnel & Related Works

Scenario: Mitigated

Worksite S18

Hung Hom Sidings Shunt Neck Area 2

Construction of Tracks

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Tracked Crane	BS D7/114	1	101	30%	-5	91
Bar Bender	CNP 021	2	90	30%		88
Concrete Poker Vibrator	BS D6/40	4	98	50%	-5	96
Air Compressor	CNP 002	2	102	50%	-10	92
Oversite concreting Truck mixer	BS D6/23	2	100	30%	-5	93
Lorry mounted concrete pump	BS D6/34	1	107	30%	-5	97
					Overall Noise Level, dB(A)	**101**

Appendix 1B Construction Plant Inventory

Plant Inventory for Construction Noise Assessment - North Approach Tunnel & Related Works

Scenario: Mitigated

Worksite S19

Hung Hom Sidings Shunt Neck Area 2

Construction of Tracks

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Tracked Crane	BS D7/114	1	101	30%	-5	91
Bar Bender	CNP 021	2	90	30%		88
Concrete Poker Vibrator	BS D6/40	4	98	50%	-5	96
Air Compressor	CNP 002	2	102	50%	-10	92
Oversite concreting Truck mixer	BS D6/23	2	100	30%	-5	93
Lorry mounted concrete pump	BS D6/34	1	107	30%	-5	97
				Overall Noise Level, dB(A)		**101**

Appendix 1B Construction Plant Inventory

Plant Inventory for Construction Noise Assessment - North Approach Tunnel & Related Works

Scenario: Mitigated

Worksite S20

Hung Hom Sidings Shunt Neck Area 2

Construction of Tracks

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Tracked Crane	BS D7/114	1	101	30%	-5	91
Bar Bender	CNP 021	2	90	30%		88
Concrete Poker Vibrator	BS D6/40	4	98	50%	-5	96
Air Compressor	CNP 002	2	102	50%	-10	92
Oversite concreting Truck mixer	BS D6/23	2	100	30%	-5	93
Lorry mounted concrete pump	BS D6/34	1	107	30%	-5	97
					Overall Noise Level, dB(A)	**101**

Construction of Noise barriers

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Tracked Crane	BS D7/114	1	101	30%	-5	91
					Overall Noise Level, dB(A)	**91**

Appendix 1B Construction Plant Inventory

Plant Inventory for Construction Noise Assessment - North Approach Tunnel & Related Works

Scenario: Mitigated

Worksite S21

Hung Hom Sidings Shunt Neck Area 2

Construction of Tracks

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Bar Bender	CNP 021	1	90	20%		83
Concrete Poker Vibrator	BS D6/40	1	98	40%	-5	89
Air Compressor	CNP 002	1	102	40%	-10	88
Oversite concreting Truck mixer	BS D6/23	1	100	20%	-5	88
Lorry mounted concrete pump	BS D6/34	1	107	20%	-5	95
				Overall Noise Level, dB(A)		**97**

Appendix 1B Construction Plant Inventory

Plant Inventory for Construction Noise Assessment - North Approach Tunnel & Related Works

Scenario: Mitigated

Worksite S22

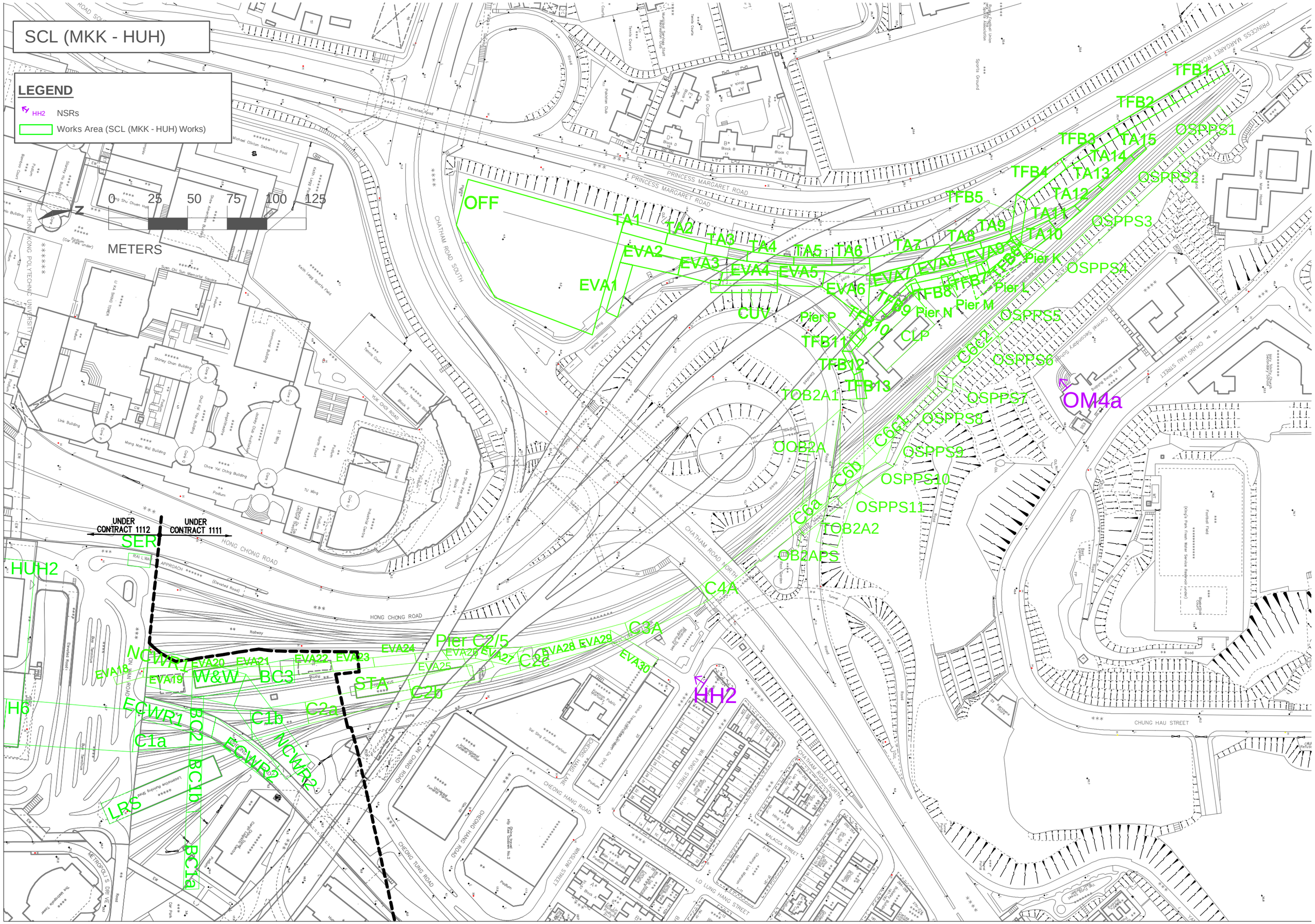
Hung Hom Sidings Shunt Neck Area 2

Construction of Tracks

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Bar Bender	CNP 021	1	90	20%		83
Concrete Poker Vibrator	BS D6/40	1	98	40%	-5	89
Air Compressor	CNP 002	1	102	40%	-10	88
Oversite concreting Truck mixer	BS D6/23	1	100	20%	-5	88
Lorry mounted concrete pump	BS D6/34	1	107	20%	-5	95
				Overall Noise Level, dB(A)		**97**

APPENDIX 1C

Works Area


SCL (MKK - HUH)
LEGEND
HH2 NSRs
Works Area (SCL (MKK - HUH) Works)
0 25 50 75 100 125
METERS
UNDER CONTRACT 1112
UNDER CONTRACT 1111
OFF
TA1
TA2
TA3
TA4
TA5
TA6
TA7
TA8
TA9
TA10
TA11
TA12
TA13
TA14
TA15
TFB1
TFB2
TFB3
TFB4
TFB5
TFB6
TFB7
TFB8
TFB9
TFB10
TFB11
TFB12
TFB13
EVA1
EVA2
EVA3
EVA4
EVA5
EVA6
EVA7
EVA8
EVA9
EVA18
EVA19
EVA20
EVA21
EVA22
EVA23
EVA24
EVA25
EVA26
EVA27
EVA28
EVA29
EVA30
CUV
Pier P
Pier N
Pier M
Pier L
Pier K
CLP
OSPPS1
OSPPS2
OSPPS3
OSPPS4
OSPPS5
OSPPS6
OSPPS7
OSPPS8
OSPPS9
OSPPS10
OSPPS11
TOB2A1
TOB2A
TOB2A2
TOB2APS
C6c2
C6c1
C6b
C6a
C4A
C3A
C2c
C2b
C2a
C1b
C1a
Pier C2/5
STA
BC3
W&W
NCWR1
NCWR2
ECWR1
ECWR2
BC2
BC1b
BC1a
LPS
H6
HUH2
SER
OM4a
HH2
PRINCESS MARGARET ROAD
CHATHAM ROAD SOUTH
CHATHAM ROAD NORTH
HONG CHONG ROAD
YUK CHOI ROAD
CHUNG HAU STREET
CHEONG HANG ROAD
CHEONG TUNG ROAD
MALACCA STREET
LO LUNG HANG STREET
THE HONG KONG POLYTECHNIC UNIVERSITY

SCL (TAW - HUH)

LEGEND

HH2 NSRs

Works Area (SCL (TAW - HUH) Works)

0 25 50 75 100 125

METERS

UNDER CONTRACT 1112

UNDER CONTRACT 1111

S1

S2

S3a

S3b

S4a

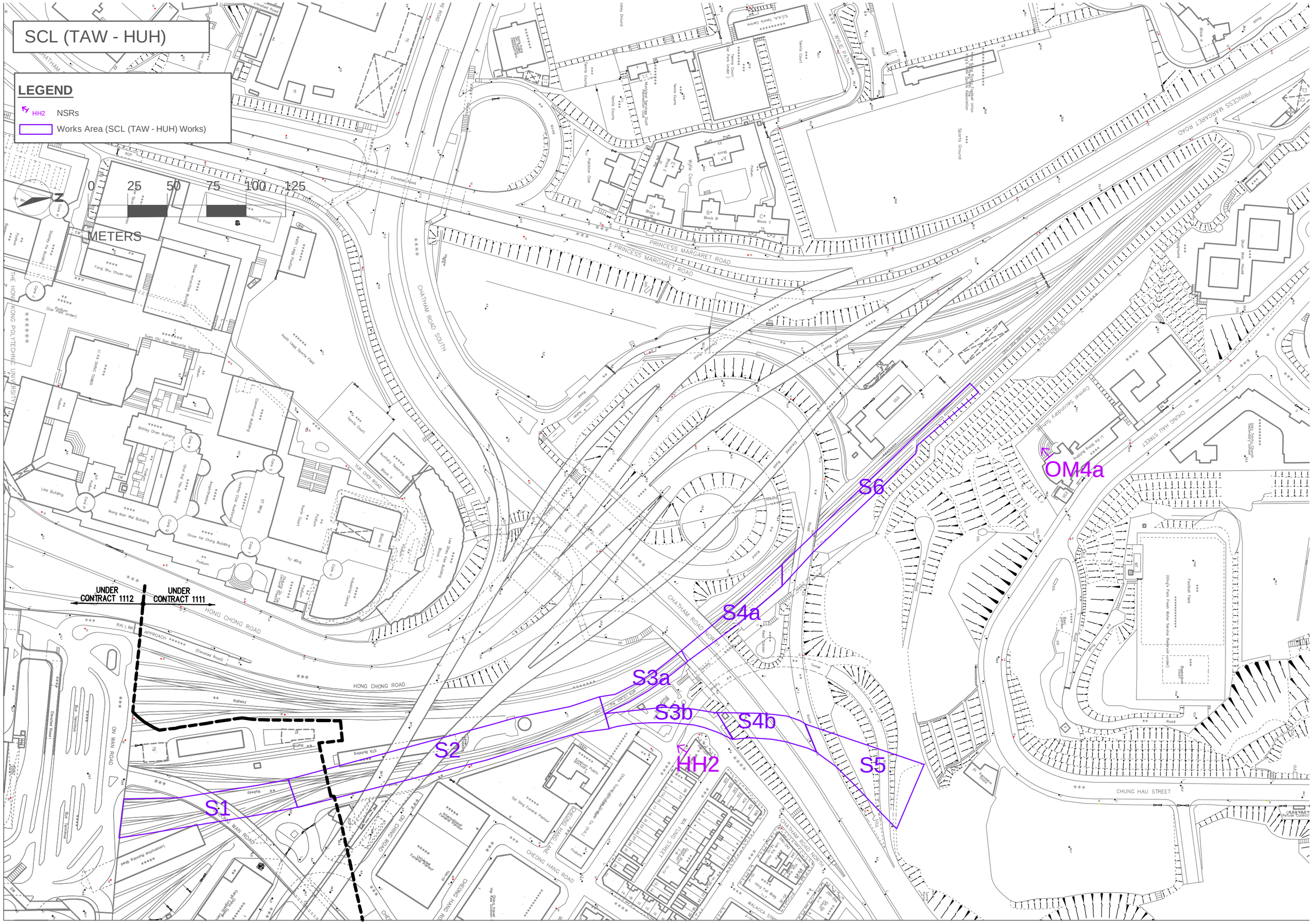
S4b

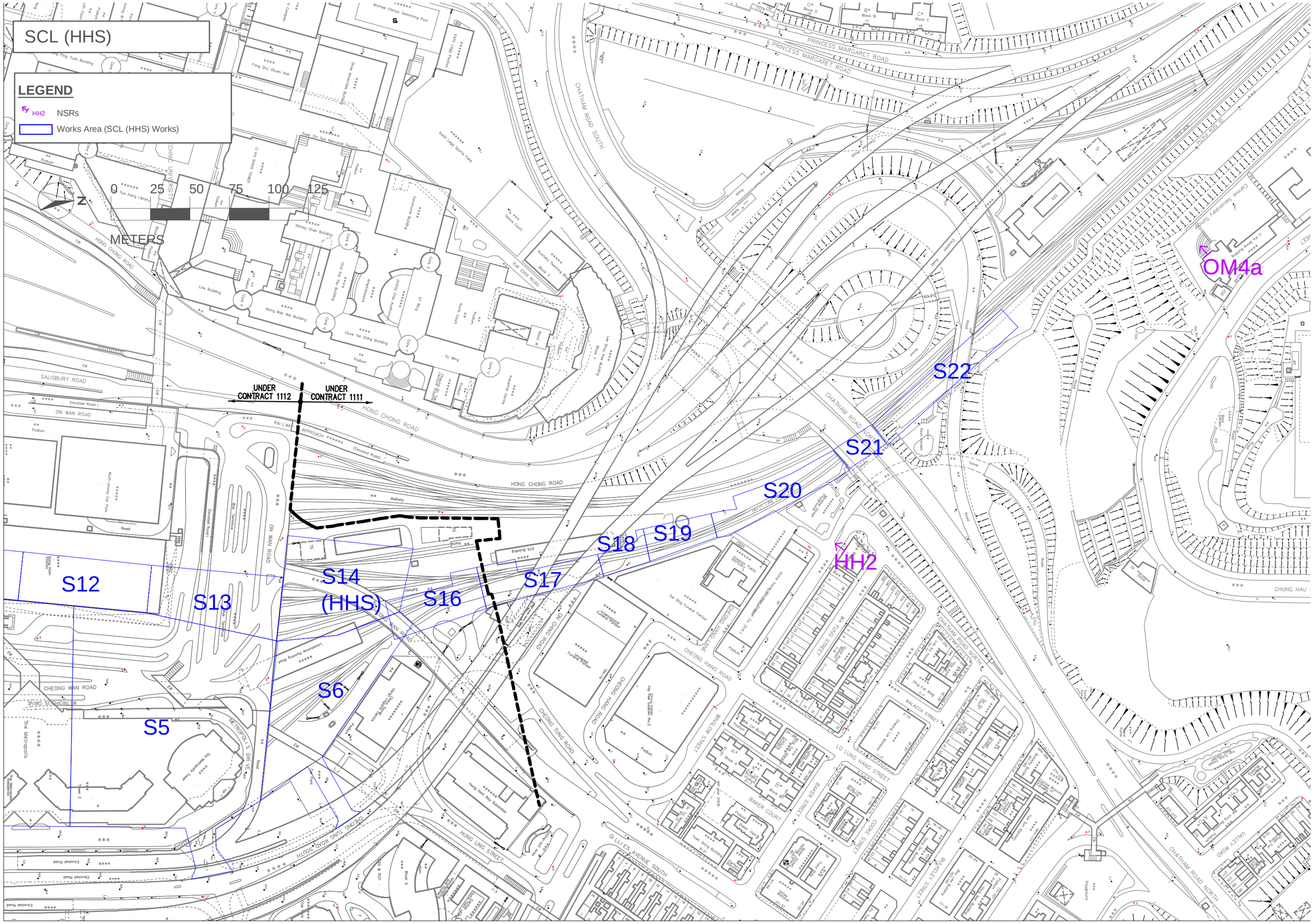
S5

S6

HH2

OM4a




SCL (HHS)
LEGEND
HH2 NSRs
Works Area (SCL (HHS) Works)
0 25 50 75 100 125
METERS
UNDER CONTRACT 1112
UNDER CONTRACT 1111
S5
S6
S12
S13
S14 (HHS)
S16
S17
S18
S19
S20
S21
S22
HH2
OM4a
HONG CHONG ROAD
SALISBURY ROAD
ON WAN ROAD
CHATHAM ROAD SOUTH
PRINCESS MARGARET ROAD
CHATHAM ROAD NORTH
CHEONG WAN ROAD
METROPOLIS DRIVE
CHEONG TUNG ROAD
CHEONG HANG ROAD
HUNG LING STREET
GI LLI ES AVENUE SOUTH
CHUNG HAU

APPENDIX 2

Detailed Noise Calculation

Appendix 2 Detailed Noise Calculation

NSR: HH2 - Wing Fung Building

Scenario: **Mitigated**

Package	Construction Activity	SWL	Dist [2] (m)	SPL [3]	Shielding Effect	2012		2013												2014												2015												2016												2017												2018											
						Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
						2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
NAT & Related Work	***North Approach Tunnel Sub-Location Area***																																																																														
	Area C2																																																																													
	Demolish Existing Facilities																																																																													
	Demolish Existing STA Building	105	170	55	0																			55	55																																																					
	Temporary Cofferdam																																																																													
	Hung Hom Bypass Pier C2/5																																																																													
	Install Diaphragm Wall	101	140	53	0																			53	53	53	53	53																																																		
	Underpinning foundation	101	140	53	0																					53	53	53	53	53																																																
	Existing Culverts to STA Building																																																																													
	Cofferdam Construction	106	79	63	0																			63	63	63	63	63																																																		
	Excavation																																																																													
	Existing Culverts to STA Building																																																																													
	Excavation & Shoring	102	79	59	0																										59	59	59	59	59																																														
	Structure Works																																																																													
	Existing Culverts to STA Building																																																																													
	Concrete Structures SCL (MKK - HUH)	108	79	65	0																															65	65	65	65	65																																										
	Concrete Structures SCL (TAW - HUH)	108	79	65	0																																				65	65	65																																								
	Area C3A																																																																													
	Temporary Cofferdam																																																																													
	STA Building to Chatham Road North (OB2)																																																																													
	Cofferdam Construction	105	49	66	0																				66	66	66																																																					
	Excavation																																																																													
	STA Building to Chatham Road North (OB2)																																																																													
	Excavation & Shoring	102	49	63	0																							63	63	63	63																																																
	Structure Works																																																																													
	STA Building to Chatham Road North (OB2)																																																																													
	Concrete Structures SCL (MKK - HUH)	108	49	69	0																											69	69	69	69	69																																											
	Backfilling																																																																													
	STA Building to Chatham Road North (OB2)																																																																													
	Backfill	105	49	66	0																																66	66																																												
	Area C4A																																																																													
	Temporary Cofferdam																																																																													
	Chatham Road North (OB2) to Slip Road (OB2A)																																																																													
	Cofferdam Construction	105	76	62	0																				62	62	62																																																				
	Excavation																																																																													
	Chatham Road North (OB2) to Slip Road (OB2A)																																																																													
	Excavation & Shoring	102	76	59	0																									59	59	59	59																																																
	Structure Works																																																																													
	Chatham Road North (OB2) to Slip Road (OB2A)																																																																													
	Concrete Structures SCL (MKK - HUH)	106	76	63	0																													63	63	63																																											
	Backfilling																																																																													
	Chatham Road North (OB2) to Slip Road (OB2A)																																																																													
	Backfill	105	76	62	0																																62	62																																												
	Area C6																																																																													
	Modification/ Enabling Works/ Utilities Diversions																																																																													
	Existing CLP Substation																																																																													
	Modify Existing CLP Substation	104	241	51	0																							51	51	51	51	51	51																																																
	Oi Sen Path Temporary Footbridge																																																																													
	Construct Temporary Working Platform (GL G-J)	84	378	27	0																																																																									
	Cut Back Slope and Existing Soil Nails and Install New Soil Nails (GL G-J)	103	378	46	0																																																																									
	Construct Temporary Working Platform (GL E-G)	84	413	26	0																																																																									
	Cut Back Slope and Existing Soil Nails and Install New Soil Nails (GL E-G)	103	413	45	0																																																																										
	Construct Temporary Working Platform (GL C-E)	84	450	26	0																																																																									
	Cut Back Slope and Existing Soil Nails and Install New Soil Nails (GL C-E)	103	450	45	0																																																																										
	Construct Temporary Working Platform (GL A-C)	84	486	25	0																																																																									
	Cut Back Slope and Existing Soil Nails and Install New Soil Nails (GL A-C)	103	486	44	0																																																																										
	Construct Temporary Footbridge Structure and Finishes (GL A-J)	102	378	45	0																																																																										
	Install Mini Piles (Pier K)	101	339	46	0																																																																									
	Construct Pile Cap (Pier K)	98	339	42	0																																																																										
	Construct Truss Structure (Pier K)	99	339	44	0																																																																										
	Install Mini Piles (Pier L)	101	315	46	0																																																																									
	Construct Pile Cap (Pier L)	98	315	43	0																																																																										
	Construct Truss Structure (Pier L)	99	315	44	0																																																																											
	Install Mini Piles (Pier M)	101	296	47	0																									47																																																					
	Construct Pile Cap (Pier M)	98	296	43	0																										43																																																			
	Construct Truss Structure (Pier M)	99	296	45	0																											45																																																	
	Install Mini Piles (Pier N)	101	282	47	0																										47																																																		
	Construct Pile Cap (Pier N)	98	282	44	0																											44																																																	
	Construct Truss Structure (Pier N)	99	282	45	0																												45																																																
	Install Mini Piles (Pier P)	101	237	49	0																											49																																																	
	Construct Pile Cap (Pier P)	98	237	45	0																												45																																																
	Construct Truss Structure (Pier P)	99	237	47	0																													47																																															
	Construct Temporary Footbridge Structure and Finishes (GL J-O)	103	232	50	0																												50	50	50																																																
	Construct Pile Cap (GL O-R)	98	222	46	0																												46	46																																																	
	Construct Truss Structure (GL O-R)	103	222	51	0																													51	51																																																
	Construct Temporary Footbridge Structure and Finishes (GL O-R)	98	222	46	0																													46	46																																																
	Complete Footpath and Finishes (GL R-T)	95	211	43	0																																						43	43																																							
	Chatham Road North Slip Road Overbridge (OB2A)																																																																													
	Site Clearance and Hoarding and Utility diversion	104	130	57	0																				57																																																								
	Foundations for Temporary OB2A (Piling & Pier)	105	130	58	0																					58	58	58	58	58	58																																																	
	Deck Construction for Temporary OB2A	100	130	53	0																																			53	53	53	53																																									
	Demolish Deck of Existing OB2A	105	148	56	0																																						56	56																																							
	Construction of New OB2A Pile & Pile Cap	107	148	58	0																																																		58	58	58	58																						
	Construction of New OB2A Abutment & Bridge Deck	110	148	61	0																																																						61	61	61	61																		
	OB2A Reinstatement	106	148	57	0																																																										57	57																
	Temporary OB2A Removal	106	130	58	0																																																												58	58														
	OB2A Pedestrian Subway																																																																													
	Site Clearance and Hoarding and Utility diversion	104	124	57	0																																				57	57																																										
	Demolish Existing Box Structure of OB2A Pedestrian Subway	108	124	61	0																																						61	61																																							
	OB2A Pedestrian Subway Reinstatement	103	124	56	0																																																							56	56	56																			

Appendix 2 Detailed Noise Calculation

NSR: HH2 - Wing Fung Building

Scenario: **Mitigated**

Package	Construction Activity	SWL	Dist [2] (m)	SPL [3]	Shielding Effect	2012		2013												2014												2015												2016												2017												2018											
						Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
						2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
	Oi Sen Path Works																																																																															
	Pedestrian Diversion Works	107	148	58	0																												58	58	58	58	58	58	58	58	58	58																																						
	Relocate CLP cable	107	148	58	0																																						58	58	58	58																																					
	Soil Nailing	101	148	52	0																																						52	52	52	52	52																																				
	Retaining wall	105	148	57	0																																											57	57	57	57	57	57																											
	Slope Cut	105	148	57	0																																																	57	57	57	57																								
	Reinstate Oi Sen Path	105	148	57	0																																																														57	57	57	57									
	Temporary Cofferdam																																																																															
	Between OB2 and OB2A																																																																																
	Temporary Retaining Wall	104	123	58	0																																							58	58	58																																						
	North of OB2A																																																																																
	Sheet Piled Wall	108	153	59	0																																																			59	59	59	59	59																				
	At Temporary OB2A																																																																															
	Sheet Piled Wall	108	195	57	0																																																														57	57	57										
	Excavation																																																																																
	Between OB2 and OB2A																																																																																
	Excavation & Shoring	102	123	55	0																																										55	55	55																																			
	North of OB2A																																																																																
	Excavation & Shoring (existing culvert)	102	153	53	0																																																						53	53	53	53	53																				
	At Temporary OB2A																																																																															
	Excavation & Shoring (existing culvert)	102	195	51	0																																																																	51									
	Structure Works																																																																																
	Between OB2 and OB2A																																																																																
	Concrete Structures	108	123	61	0																																													61																																		
	North of OB2A																																																																																
	Concrete Structures	105	153	57	0																																																									57	57	57	57	57																	
	At Temporary OB2A																																																																															
	Concrete Structures	105	195	55	0																																																																		55								
	Backfilling																																																																																
	OB2 to Temporary OB2A																																																																																
	Backfill	105	123	58	0																																																																			58							
Homantin Siding	***Homantin Siding***																																																																															
	Loco Siding @HKPolyU Building																																																																																
	Removal of Existing Tracks	102	271	48	0			48	48																																																																						
	Decking Across Culvert	99	251	46	0			46	46	46	46																																																																			
	Office / Store construction	100	275	46	0			46	46	46	46	46	46	46	46	46																																																														
	EVA construction	100	251	47	0									47	47	47																																																															
	Track Laying to HKPolyU	102	271	48	0									48	48																																																															
New EVA	***New EVA***																																																																																
	Complete EVA between Hung Hom Station and Winslow Street	106	767	44	0																																																																												
	Construct EVA Under HUH Podium	106	332	51	0																																																																											
	Construct EVA Under HUH Podium	106	302	52	0																																																																											
	Construct EVA Under HUH Podium	106	274	52	0																																																						52	52	52	52																				
	Construct EVA Under HUH Podium	106	243	53	0																																																						53	53	53	53																				
	Construct EVA Under HUH Podium	106	216	55	0																																																						55	55	55	55																				
	Construct EVA Under HUH Podium	106	190	56	0																																																						56	56	56	56																				
	Construct EVA Under HUH Podium	106	169	57	0																																																						57	57	57	57																				
	Construct EVA Under HUH Podium	106	150	58	0																																																						58	58	58	58																				
	Construct EVA Under HUH Podium	106	130	59	0																																																						59	59	59	59																				
	Construct EVA Under HUH Podium	106	96	62	0																																																						62	62	62	62																				
	Construct EVA Under HUH Podium	106	73	64	0																																																						64	64	64	64																				
	Construct EVA Under HUH Podium	106	43	69	0																																																						69	69	69	69																				
SCL (TAW - HUH)	***Worksite S2***																																																																																
	Concrete Structures EWL	107	100	62	0																																				62	62	62																																									
	Worksite S3a																																																																																
	Temporary Cofferdam EWL	106	55	66	0						66	66	66																																																																				
	Stage 1 Across Rd Cofferdam Construction	95	55	55	0											55																																																															
	Stage 1 Across Rd Cofferdam Construction	104	55	64	0												64	64	64	64	64																																																											
	Worksite S3b																																																																																
	Stage 1 Across Rd Cofferdam Construction	106	25	73	0																			73	73																																																								
	Excavation	95	25	62	0																					62	62																																																					
	Structure EWL (Winslow St.) - Stage 1	106	25	73	0																							73	73																																																				
	Stage 2 Across Rd Cofferdam Construction	106	25	73	0																											73	73	73																																																	
	Stage 3 Across Rd Cofferdam Construction	106	25	73	0																														73	73																																																
	Excavation	95	25	62	0																																62	62																																													
	Structure EWL (Winslow St.) - Stage 3	106	25	73	0																																		73	73	73																																											
	Reinstate Winslow St.	100	25	67	0																																					67	67	67	67																																						
	Traffic Diversion Works (Winslow St)	106	25	73	0																									73	73	73																																																			
	Worksite S4a																																																																																
	Site Clearance and Hoarding and Utility diversion	103	85	59	0			59	59	59	59																																																																					
	Temp CHRN Foundation	102	85	59	0				59	59	59	59	59	59	59	59	59																																																															
	Deck for TB1	100	85	57	0												57	57	57	57	57	57	57																																																										
	Existing Bridge Deck Removal	108	85	64	0																			64	64																																																								
	Construction of new western abutment	102	85	58	0																															58	58	58																																											
	Bridge Reinstatement	106	85	62	0																																		62	62	62	62																																							
	Demolish Temp CHRN	103	85	60	0																																					60	60	60																																							
	Reinstate Winslow St.	108	85	64	0																																			64	64	64																																								
	Worksite S4b																																																																																
	Temporary Cofferdam EWL	106	35	70	0																							70	70	70	70																																																			
	Excavation	95	35	59	0																											59	59																																																		
	Concrete Structures EWL	106	35	70	0																													70	70	70	70	70																																											
	Re-align Slip road OB2A	106	35	70	0																																							70	70	70																																						
	Divert Slip road Winslow St. underpass	106	35	70	0																																									70																																						
	Worksite S5																																																																																
	Temporary Cofferdam EWL before Temp CHRN diversion	106	90	62	0				62	62																																																																						
	Excavation & Strutting to EWL formation	95	90	51	0																														51	51	51																																													
	Concrete Structures EWL	106	90	62	0																																	62	62																																												
	Temporary Cofferdam EWL (after slip rd re-instate)	106	90	62	0																																							62	62	62																																					
	Excavation & Strutting EWL (after slip rd re-instate)	95	90	51	0																																										51	51	51																																				
	Concrete Structures EWL (after slip rd re-instate)	106	90	62	0																																													62	62	62																																								
	Backfill EWL (after slip rd re-instate)	99	90	55	0																																																55	55																						

Appendix 2 Detailed Noise Calculation

NSR: HH2 - Wing Fung Building

Scenario: **Mitigated**

Package	Construction Activity	SWL	Dist [2] (m)	SPL [3]	Shielding Effect
SCL (HHS)	***Worksite S17***				
	Construction of Tracks	100	185	50	0
	Worksite S18				
	Construction of Tracks	101	145	53	0
	Worksite S19				
	Construction of Tracks	101	100	56	0
	Worksite S20				
	Construction of Tracks	101	50	62	0
	Construction of Noise Barrier	91	50	52	0
	Worksite S21				
	Construction of Tracks	97	210	46	0
	Worksite S22				
	Construction of Tracks	97	110	52	0

	2012		2013															
	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Overall Noise Level, Leq (30min), dB(A)	-	-	60	65	65	68	67	67	60	60	61	66	65	65	65	65	57	57
Noise Level from SCL Works Contract 1112, dB(A)	-	-	-	-	-	-	-	53	53	53	53	53	53	53	53	53	57	57
Noise Level from KTE, dB(A)	64	62	63	63	63	60	60	59	59	59	61	61	61	59	65	66	65	66
Cumulative Noise Level, dB(A)	64	62	65	67	67	68	68	68	63	63	64	67	66	66	68	69	67	67
Range of Cumulative Noise Level, dB(A)	55 - 77																	
No. of Month of Exceedance	8																	

	2014												2015											
	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Overall Noise Level, Leq (30min), dB(A)	74	75	70	70	75	75	75	75	77	75	76	76	76	73	74	75	75	75
Noise Level from SCL Works Contract 1112, dB(A)	57	53	57	59	59	58	58	63	62	53	53	53	53	53	58	58	58	58
Noise Level from KTE, dB(A)	66	65	66	62	64	62	62	62	60	58	58	-	-	-	-	-	-	-
Cumulative Noise Level, dB(A)	75	75	71	72	76	76	76	76	77	75	76	76	77	73	74	75	75	75

	2015												2016											
	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
Overall Noise Level, Leq (30min), dB(A)	72	71	73	72	74	63	64	60	64	58	63	63	64	62	64	63	64	64
Noise Level from SCL Works Contract 1112, dB(A)	62	62	62	62	61	61	61	60	60	-	-	-	-	-	-	-	-	-
Noise Level from KTE, dB(A)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	58	58	-
Cumulative Noise Level, dB(A)	73	72	73	73	74	65	66	63	65	62	63	63	64	62	65	64	65	64

	2017												2018											
	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85
Overall Noise Level, Leq (30min), dB(A)	72	72	72	72	61	61	58	61	61	60	58	55	58	-	-	-	-	-
Noise Level from SCL Works Contract 1112, dB(A)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Noise Level from KTE, dB(A)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cumulative Noise Level, dB(A)	72	72	72	72	61	61	58	61	61	60	58	55	58	-	-	-	-	-

Remarks:

[1] The Works Area with length to width ratio exceeding 5 : 1 is divided into Subareas.

[2] Noise source at more than 300m from the sensitive receiver are not considered in the noise assessment due to large distance attenuation effect.

[3] For the calculation of sound pressure levels (SPL), the PMEs are assumed to be placed at the notional source position according to the "Technical Memorandum on Noise from Construction Work other than Percussive Piling" by EPD.

Appendix 2 Detailed Noise Calculation

NSR: OM4a - Carmel Secondary School (South Block)

Scenario: **Mitigated**

Package	Construction Activity	SWL	Dist [2] (m)	SPL [3]	Shielding Effect	2012		2013												2014											
						Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
						2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
NAT & Related Work	***North Approach Tunnel Sub-Location Area***																														
	Area C2																														
	Demolish Existing Facilities																														
	Demolish Existing STA Building	105	446	47	0																										
	Temporary Cofferdam																														
	Hung Hom Bypass Pier C2/5																														
	Install Diaphragm Wall	101	409	44	0																										
	Underpinning foundation	101	409	44	0																										
	Existing Culverts to STA Building																														
	Cofferdam Construction	106	340	51	0																										
	Excavation																														
	Existing Culverts to STA Building																														
	Excavation & Shoring	102	340	47	0																										
	Structure Works																														
	Existing Culverts to STA Building																														
	Concrete Structures SCL (MKK - HUH)	108	340	53	0																										
	Concrete Structures SCL (TAW - HUH)	108	340	53	0																										
	Area C3A																														
	Temporary Cofferdam																														
	STA Building to Chatham Road North (OB2)																														
	Cofferdam Construction	105	281	51	0																					51	51	51				
	Excavation																														
	STA Building to Chatham Road North (OB2)																														
	Excavation & Shoring	102	281	48	0																								48	48	48	48
	Structure Works																														
	STA Building to Chatham Road North (OB2)																														
	Concrete Structures SCL (MKK - HUH)	108	281	54	0																										
	Backfilling																														
	STA Building to Chatham Road North (OB2)																														
	Backfill	105	281	51	0																										
	Area C4A																														
	Temporary Cofferdam																														
	Chatham Road North (OB2) to Slip Road (OB2A)																														
	Cofferdam Construction	105	219	53	0																					53	53	53				
	Excavation																														
	Chatham Road North (OB2) to Slip Road (OB2A)																														
	Excavation & Shoring	102	219	50	0																										50	50
	Structure Works																														
	Chatham Road North (OB2) to Slip Road (OB2A)																														
	Concrete Structures SCL (MKK - HUH)	106	219	54	0																										
	Backfilling																														
	Chatham Road North (OB2) to Slip Road (OB2A)																														
	Backfill	105	219	53	0																										
	Area C6																														
	Modification/ Enabling Works/ Utilities Diversions																														
	Existing CLP Substation																														
	Modify Existing CLP Substation	104	112	58	0																								58	58	58	58
	Oi Sen Path Temporary Footbridge																														
	Construct Temporary Working Platform (GL G-J)	84	136	36	0																			36							
	Cut Back Slope and Existing Soil Nails and Install New Soil Nails (GL G-J)	103	136	55	0																				55						
	Construct Temporary Working Platform (GL E-G)	84	156	35	0																					35					
	Cut Back Slope and Existing Soil Nails and Install New Soil Nails (GL E-G)	103	156	54	0																						54				
	Construct Temporary Working Platform (GL C-E)	84	181	34	0																							34			
	Cut Back Slope and Existing Soil Nails and Install New Soil Nails (GL C-E)	103	181	52	0																								52		
	Construct Temporary Working Platform (GL A-C)	84	210	32	0																									32	
	Cut Back Slope and Existing Soil Nails and Install New Soil Nails (GL A-C)	103	210	51	0																										51
	Construct Temporary Footbridge Structure and Finishes (GL A-J)	102	136	54	0																									54	54
	Install Mini Piles (Pier K)	101	103	56	0																							56			
	Construct Pile Cap (Pier K)	98	103	52	0																								52		
	Construct Truss Structure (Pier K)	99	103	54	0																									54	
	Install Mini Piles (Pier L)	101	100	56	0																								56		
	Construct Pile Cap (Pier L)	98	100	53	0																									53	
	Construct Truss Structure (Pier L)	99	100	54	0																										54
	Install Mini Piles (Pier M)	101	107	56	0																									56	
	Construct Pile Cap (Pier M)	98	107	52	0																										52
	Construct Truss Structure (Pier M)	99	107	54	0																										
	Install Mini Piles (Pier N)	101	122	54	0																										54
	Construct Pile Cap (Pier N)	98	122	51	0																										
	Construct Truss Structure (Pier N)	99	122	53	0																										
	Install Mini Piles (Pier P)	101	139	53	0																										
	Construct Pile Cap (Pier P)	98	139	50	0																										
	Construct Truss Structure (Pier P)	99	139	52	0																										
	Construct Temporary Footbridge Structure and Finishes (GL J-O)	103	102	57	0																										
	Construct Pile Cap (GL O-R)	98	141	50	0																										
	Construct Truss Structure (GL O-R)	103	141	55	0																										
	Construct Temporary Footbridge Structure and Finishes (GL O-R)	98	141	50	0																										
	Complete Footpath and Finishes (GL R-T)	95	136	47	0																										
	Chatham Road North Slip Road Overbridge (OB2A)																														
	Site Clearance and Hoarding and Utility diversion	104	141	56	0																				56						
	Foundations for Temporary OB2A (Piling & Pier)	105	141	57	0																					57	57	57	57	57	57
	Deck Construction for Temporary OB2A	100	141	52	0																										
	Demolish Deck of Existing OB2A	105	164	56	0																										
	Construction of New OB2A Pile & Pile Cap	107	164	57	0																										
	Construction of New OB2A Abutment & Bridge Deck	110	164	60	0																										
	OB2A Reinstatement	106	164	56	0																										
	Temporary OB2A Removal	106	141	58	0																										
	OB2A Pedestrian Subway																														
	Site Clearance and Hoarding and Utility diversion	104	173	55	0																										
	Demolish Existing Box Structure of OB2A Pedestrian Subway	108	173	59	0																										
	OB2A Pedestrian Subway Reinstatement	103	173	53	0																										

Construction Activity	2015												2016											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51
North Approach Tunnel Sub-Location Area																								
Area C2																								
Demolish Existing Facilities																								
Demolish Existing STA Building																								
Temporary Cofferdam																								
Hung Hom Bypass Pier C2/5																								
Install Diaphragm Wall																								
Underpinning foundation																								
Existing Culverts to STA Building																								
Cofferdam Construction																								
Excavation																								
Existing Culverts to STA Building																								
Excavation & Shoring																								
Structure Works																								
Existing Culverts to STA Building																								
Concrete Structures SCL (MKK - HUH)																								
Concrete Structures SCL (TAW - HUH)																								
Area C3A																								
Temporary Cofferdam																								
STA Building to Chatham Road North (OB2)																								
Cofferdam Construction																								
Excavation																								
STA Building to Chatham Road North (OB2)																								
Excavation & Shoring																								
Structure Works																								
STA Building to Chatham Road North (OB2)																								
Concrete Structures SCL (MKK - HUH)	54	54	54	54	54																			
Backfilling																								
STA Building to Chatham Road North (OB2)																								
Backfill						51	51																	
Area C4A																								
Temporary Cofferdam																								
Chatham Road North (OB2) to Slip Road (OB2A)																								
Cofferdam Construction																								
Excavation																								
Chatham Road North (OB2) to Slip Road (OB2A)																								
Excavation & Shoring	50	50																						
Structure Works																								
Chatham Road North (OB2) to Slip Road (OB2A)																								
Concrete Structures SCL (MKK - HUH)			54	54	54																			
Backfilling																								
Chatham Road North (OB2) to Slip Road (OB2A)																								
Backfill						53	53																	
Area C6																								
Modification/ Enabling Works/ Utilities Diversions																								
Existing CLP Substation																								
Modify Existing CLP Substation	58	58																						
Oi Sen Path Temporary Footbridge																								
Construct Temporary Working Platform (GL G-J)																								
Cut Back Slope and Existing Soil Nails and Install New Soil Nails (GL G-J)																								
Construct Temporary Working Platform (GL E-G)																								
Cut Back Slope and Existing Soil Nails and Install New Soil Nails (GL E-G)																								
Construct Temporary Working Platform (GL C-E)																								
Cut Back Slope and Existing Soil Nails and Install New Soil Nails (GL C-E)																								
Construct Temporary Working Platform (GL A-C)																								
Cut Back Slope and Existing Soil Nails and Install New Soil Nails (GL A-C)																								
Construct Temporary Footbridge Structure and Finishes (GL A-J)	54																							
Install Mini Piles (Pier K)																								
Construct Pile Cap (Pier K)																								
Construct Truss Structure (Pier K)																								
Install Mini Piles (Pier L)																								
Construct Pile Cap (Pier L)																								
Construct Truss Structure (Pier L)																								
Install Mini Piles (Pier M)																								
Construct Pile Cap (Pier M)																								
Construct Truss Structure (Pier M)	54																							
Install Mini Piles (Pier N)																								
Construct Pile Cap (Pier N)	51																							
Construct Truss Structure (Pier N)		53																						
Install Mini Piles (Pier P)	53																							
Construct Pile Cap (Pier P)		50																						
Construct Truss Structure (Pier P)			52																					
Construct Temporary Footbridge Structure and Finishes (GL J-O)		57	57	57																				
Construct Pile Cap (GL O-R)		50	50																					
Construct Truss Structure (GL O-R)			55	55																				
Construct Temporary Footbridge Structure and Finishes (GL O-R)			50	50																				
Complete Footpath and Finishes (GL R-T)												47	47											
Chatham Road North Slip Road Overbridge (OB2A)																								
Site Clearance and Hoarding and Utility diversion																								
Foundations for Temporary OB2A (Piling & Pier)																								
Deck Construction for Temporary OB2A								52	52	52	52													
Demolish Deck of Existing OB2A												56	56											
Construction of New OB2A Pile & Pile Cap																							57	57
Construction of New OB2A Abutment & Bridge Deck																								
OB2A Reinstatement																								
Temporary OB2A Removal																								
OB2A Pedestrian Subway																								
Site Clearance and Hoarding and Utility diversion										55	55													
Demolish Existing Box Structure of OB2A Pedestrian Subway												59	59											
OB2A Pedestrian Subway Reinstatement																								

Construction Activity	2017												2018											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
North Approach Tunnel Sub-Location Area																								
Area C2																								
Demolish Existing Facilities																								
Demolish Existing STA Building																								
Temporary Cofferdam																								
Hung Hom Bypass Pier C2/5																								
Install Diaphragm Wall																								
Underpinning foundation																								
Existing Culverts to STA Building																								
Cofferdam Construction																								
Excavation																								
Existing Culverts to STA Building																								
Excavation & Shoring																								
Structure Works																								
Existing Culverts to STA Building																								
Concrete Structures SCL (MKK - HUH)																								
Concrete Structures SCL (TAW - HUH)																								
Area C3A																								
Temporary Cofferdam																								
STA Building to Chatham Road North (OB2)																								
Cofferdam Construction																								
Excavation																								
STA Building to Chatham Road North (OB2)																								
Excavation & Shoring																								
Structure Works																								
STA Building to Chatham Road North (OB2)																								
Concrete Structures SCL (MKK - HUH)																								
Backfilling																								
STA Building to Chatham Road North (OB2)																								
Backfill																								
Area C4A																								
Temporary Cofferdam																								
Chatham Road North (OB2) to Slip Road (OB2A)																								
Cofferdam Construction																								
Excavation																								
Chatham Road North (OB2) to Slip Road (OB2A)																								
Excavation & Shoring																								
Structure Works																								
Chatham Road North (OB2) to Slip Road (OB2A)																								
Concrete Structures SCL (MKK - HUH)																								
Backfilling																								
Chatham Road North (OB2) to Slip Road (OB2A)																								
Backfill																								
Area C6																								
Modification/ Enabling Works/ Utilities Diversions																								
Existing CLP Substation																								
Modify Existing CLP Substation																								
Oi Sen Path Temporary Footbridge																								
Construct Temporary Working Platform (GL G-J)																								
Cut Back Slope and Existing Soil Nails and Install New Soil Nails (GL G-J)																								
Construct Temporary Working Platform (GL E-G)																								
Cut Back Slope and Existing Soil Nails and Install New Soil Nails (GL E-G)																								
Construct Temporary Working Platform (GL C-E)																								
Cut Back Slope and Existing Soil Nails and Install New Soil Nails (GL C-E)																								
Construct Temporary Working Platform (GL A-C)																								
Cut Back Slope and Existing Soil Nails and Install New Soil Nails (GL A-C)																								
Construct Temporary Footbridge Structure and Finishes (GL A-J)																								
Install Mini Piles (Pier K)																								
Construct Pile Cap (Pier K)																								
Construct Truss Structure (Pier K)																								
Install Mini Piles (Pier L)																								
Construct Pile Cap (Pier L)																								
Construct Truss Structure (Pier L)																								
Install Mini Piles (Pier M)																								
Construct Pile Cap (Pier M)																								
Construct Truss Structure (Pier M)																								
Install Mini Piles (Pier N)																								
Construct Pile Cap (Pier N)																								
Construct Truss Structure (Pier N)																								
Install Mini Piles (Pier P)																								
Construct Pile Cap (Pier P)																								
Construct Truss Structure (Pier P)																								
Construct Temporary Footbridge Structure and Finishes (GL J-O)																								
Construct Pile Cap (GL O-R)																								
Construct Truss Structure (GL O-R)																								
Construct Temporary Footbridge Structure and Finishes (GL O-R)																								
Complete Footpath and Finishes (GL R-T)																								
Chatham Road North Slip Road Overbridge (OB2A)																								
Site Clearance and Hoarding and Utility diversion																								
Foundations for Temporary OB2A (Piling & Pier)																								
Deck Construction for Temporary OB2A																								
Demolish Deck of Existing OB2A																								
Construction of New OB2A Pile & Pile Cap	57	57																						
Construction of New OB2A Abutment & Bridge Deck			60	60	60	60																		
OB2A Reinstatement							56	56																
Temporary OB2A Removal									58	58														
OB2A Pedestrian Subway																								
Site Clearance and Hoarding and Utility diversion																								
Demolish Existing Box Structure of OB2A Pedestrian Subway																								
OB2A Pedestrian Subway Reinstatement			53	53	53																			

Appendix 2 Detailed Noise Calculation

NSR: OM4a - Carmel Secondary School (South Block)

Scenario: **Mitigated**

Package	Construction Activity	SWL	Dist [2] (m)	SPL [3]	Shielding Effect	2012		2013												2014												2015												2016												2017												2018											
						Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
						2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
	Oi Sen Path Works																																																																														
	Pedestrian Diversion Works	107	70	65	-10																												55	55	55	55	55	55	55	55	55	55																																							
	Relocate CLP cable	107	70	65	-10																																						55	55	55	55																																									
	Soil Nailing	101	70	59	-10																																						49	49	49	49	49																																							
	Retaining wall	105	70	63	-10																																											53	53	53	53	53	53																												
	Slope Cut	105	70	63	-10																																																	53	53	53	53																								
	Reinstate Oi Sen Path	105	70	63	-10																																																														53	53	53	53									
	Temporary Cofferdam																																																																														
	Between OB2 and OB2A																																																																														
	Temporary Retaining Wall	104	176	54	0																																							54	54	54																																									
	North of OB2A																																																																															
	Sheet Piled Wall	108	145	60	0																																																			60	60	60	60	60																				
	At Temporary OB2A																																																																															
	Sheet Piled Wall	108	79	65	-10																																																															55	55	55										
	Excavation																																																																															
	Between OB2 and OB2A																																																																														
	Excavation & Shoring	102	176	52	0																																										52	52	52																																						
	North of OB2A																																																																															
	Excavation & Shoring (existing culvert)	102	145	54	0																																																						54	54	54	54	54																				
	At Temporary OB2A																																																																															
	Excavation & Shoring (existing culvert)	102	79	59	-10																																																																	49									
	Structure Works																																																																															
	Between OB2 and OB2A																																																																															
	Concrete Structures	108	176	58	0																																													58																																		
	North of OB2A																																																																															
	Concrete Structures	105	145	57	0																																																									57	57	57	57	57														
	At Temporary OB2A																																																																															
	Concrete Structures	105	79	62	-10																																																																		52								
	Backfilling																																																																															
	OB2 to Temporary OB2A																																																																															
	Backfill	105	79	62	-10																																																																			52							
Homantin Siding	***Homantin Siding***																																																																															
	Loco Siding @HKPolyU Building																																																																															
	Removal of Existing Tracks	102	104	56	0			56	56																																																																							
	Decking Across Culvert	99	212	48	0			48	48	48	48																																																																			
	Office / Store construction	100	332	45	0																																																																										
	EVA construction	100	97	55	0									55	55	55																																																													
	Track Laying to HKPolyU	102	110	56	0									56	56																																																														
New EVA	***New EVA***																																																																															
	Complete EVA between Hung Hom Station and Winslow Street	106	1010	41	0																																																																										
	Construct EVA Under HUH Podium	106	593	46	0																																																																										
	Construct EVA Under HUH Podium	106	565	46	0																																																																										
	Construct EVA Under HUH Podium	106	538	47	0																																																																										
	Construct EVA Under HUH Podium	106	509	47	0																																																																										
	Construct EVA Under HUH Podium	106	481	48	0																																																																										
	Construct EVA Under HUH Podium	106	455	48	0																																																																										
	Construct EVA Under HUH Podium	106	435	48	0																																																																										
	Construct EVA Under HUH Podium	106	416	49	0																																																																										
	Construct EVA Under HUH Podium	106	400	49	0																																																																										
	Construct EVA Under HUH Podium	106	364	50	0																																																																										
	Construct EVA Under HUH Podium	106	336	51	0																																																																										
	Construct EVA Under HUH Podium	106	322	51	0																																																																										
SCL (TAW - HUH)	***Worksite S2***																																																																														
	Concrete Structures EWL	107	416	50	0																																																																										
	Worksite S3a																																																																															
	Temporary Cofferdam EWL	106	293	51	0						51	51	51																																																																	
	Stage 1 Across Rd Cofferdam Construction	95	293	40	0											40																																																												
	Stage 1 Across Rd Cofferdam Construction	104	293	49	0												49	49	49	49	49																																																										
	Worksite S3b																																																																															
	Stage 1 Across Rd Cofferdam Construction	106	292	51	0																			51	51																																																						
	Excavation	95	292	40	0																					40	40																																																				
	Structure EWL (Winslow St.) - Stage 1	106	292	52	0																							52	52																																																		
	Stage 2 Across Rd Cofferdam Construction	106	292	51	0																											51	51	51																																														
	Stage 3 Across Rd Cofferdam Construction	106	292	51	0																														51	51																																											
	Excavation	95	292	40	0																																40	40																																								
	Structure EWL (Winslow St.) - Stage 3	106	292	52	0																																		52	52	52																																						
	Reinstate Winslow St.	100	292	46	0																																					46	46	46	46																																				
	Traffic Diversion Works (Winslow St)	106	292	52	0																									52	52	52																																																	
	Worksite S4a																																																																																
	Site Clearance and Hoarding and Utility diversion	103	222	51	0			51	51	51	51																																																																				
	Temp CHRN Foundation	102	222	50	0				50	50	50	50	50	50	50	50	50																																																															
	Deck for TB1	100	222	48	0												48	48	48	48	48	48	48																																																									
	Existing Bridge Deck Removal	108	222	56	0																			56	56																																																							
	Construction of new western abutment	102	222	50	0																															50	50	50																																								
	Bridge Reinstatement	106	222	54	0																																		54	54	54	54																																					
	Demolish Temp CHRN	103	222	51	0																																					51	51	51																																					
	Reinstate Winslow St.	108	222	56	0																																			56	56	56																																						
	Worksite S4b																																																																															
	Temporary Cofferdam EWL	106	249	53	0																							53	53	53	53																																																
	Excavation	95	249	42	0																											42	42																																															
	Concrete Structures EWL	106	249	53	0																													53	53	53	53	53																																						
	Re-align Slip road OB2A	106	249	53	0																																							53	53	53																																		
	Divert Slip road Winslow St. underpass	106	249	53	0																																									53																																		
	Worksite S5																																																																															
	Temporary Cofferdam EWL before Temp CHRN diversion	106	228	53	0				53	53																																																																						
	Excavation & Strutting to EWL formation	95	228	43	0																														43	43	43																																								
	Concrete Structures EWL	106	228	54	0																																	54	54																																							
	Temporary Cofferdam EWL (after slip rd re-instate)	106	228	53	0																																									53	53	53																																	
	Excavation & Strutting EWL (after slip rd re-instate)	95	228	43	0																																												43	43	43																														
	Concrete Structures EWL (after slip rd re-instate)	106	228	54	0																																															54	54	54																											
	Backfill EWL (after slip rd re-instate)	99	228	47	0																																																		47	47																								

Appendix 2 Detailed Noise Calculation

NSR: OM4a - Carmel Secondary School (South Block)

Scenario: **Mitigated**

Package	Construction Activity	SWL	Dist [2] (m)	SPL [3]	Shielding Effect
SCL (HHS)	***Worksite S17***				
	Construction of Tracks	100	470	42	0
	Worksite S18				
	Construction of Tracks	101	414	44	0
	Worksite S19				
	Construction of Tracks	101	378	45	0
	Worksite S20				
	Construction of Tracks	101	303	47	0
	Construction of Noise Barrier	91	303	36	0
	Worksite S21				
	Construction of Tracks	97	536	38	0
	Worksite S22				
	Construction of Tracks	97	185	47	0

	2012		2013																2014												2015												2016												2017												2018											
	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
Overall Noise Level, Leq (30min), dB(A)	-	-	58	59	57	56	54	54	59	59	56	54	52	52	52	52	48	48	57	62	59	60	63	64	64	64	63	64	64	63	61	60	61	61	61	62	62	63	64	59	61	56	57	56	59	53	57	57	60	59	62	62	63	64	64	61	61	61	61	57	58	58	57	54	52	52	-	-	-	-	-	-
Noise Level from SCL Works Contract 1112, dB(A)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Noise Level from KTE, dB(A)	60	60	60	60	60	56	56	56	56	56	64	64	64	61	64	66	64	64	64	67	66	68	67	69	67	67	64	63	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	64	63	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cumulative Noise Level, dB(A)	60	60	62	63	62	59	58	58	61	61	65	64	64	62	64	66	64	64	64	68	67	68	68	70	69	69	67	66	66	63	61	60	61	61	61	62	62	63	64	59	61	56	57	56	59	53	57	57	60	59	66	66	66	64	64	61	61	61	61	57	58	58	57	54	52	52	-	-	-	-	-	-
Range of Cumulative Noise Level, dB(A)	52 - 70																																																																													
No. of Month of Exceedance (during examination period)	0	(3)																																																																												

Remarks:

[1] The Works Area with length to width ratio exceeding 5 : 1 is divided into Subareas.

[2] Noise source at more than 300m from the sensitive receiver are not considered in the noise assessment due to large distance attenuation effect.

[3] For the calculation of sound pressure levels (SPL), the PMEs are assumed to be placed at the notional source position according to the "Technical Memorandum on Noise from Construction Work other than Percussive Piling" by EPD.

Appendix C

Construction Noise Mitigation Measures Plan for Contract No. 1103 – Hin Keng to Diamond Hill Tunnels

MTR Corporation Limited

Shatin to Central Link
Tai Wai to Hung Hom Section
and
Mong Kok East to Hung Hom Section

Construction Noise Mitigation Measures Plan (CNMMP)

Works Contract 1103
Hin Keng To Diamond Hill Tunnels

(June 2013)

Verified by: Coleman Ng

Position: Environmental Team Leader

Date: 03/06/2013

MTRC - SHATIN TO CENTRAL LINK

SCL1103 HIN KENG TO DIAMOND HILL TUNNELS

CONSTRUCTION NOISE MITIGATION MEASURES PLAN

(REVISION 1)

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1.0 INTRODUCTION

The Shatin to Central Link (SCL) is one of the railway projects recommended for implementation in Railway Development Strategy 2000. It is an integral component of the expanded rail network, which will be required to support the economic, social and population growth of the HKSAR in the coming years. In particular, it will support the urban renewal of the existing Kowloon City District, planned Kai Tak Development (KTD) and further developments in North East New Territories (including Ma On Shan) by providing direct and efficient rail service between Shatin and the Central Business District of the Hong Kong Island via KTD.

The SCL is also one of the ten large-scale infrastructure projects announced by the Chief Executive in his 2007-2008 Policy Address. For the purposes of the Environmental Impact Assessment (EIA), five EIA Studies have been conducted to cover different sections of the SCL. They include:

SCL – Tai Wai to Hung Hom Section [SCL (TAW-HUH)] (hereinafter referred to as "the Project", being considered in this EIA) – the extension of Ma On Shan Line from Tai Wai Station via Hing Keng, Diamond Hill, Kai Tak, To Kwa Wan, Ma Tau Wai and Ho Man Tin to Hung Hom, and link up with the existing West Rail Line, along with a proposed stabling sidings option in Diamond Hill (DHS);

- SCL – Mong Kok East to Hung Hom Section [SCL (MKK-HUH)] – the realignment work for the existing East Rail Line tracks from the tunnel portal near Oi Man Estate (Portal 1A) to the proposed North Ventilation Building (NOV) in Hung Hom;
- SCL – Hung Hom to Admiralty Section [SCL (HUH-ADM)] – the section from NOV, Plant Rooms and Emergency Access in Hung Hom across the harbour to the Causeway Bay Typhoon Shelter (CBTS), Exhibition Station (EXH) and then to ADM;
- SCL Protection works at Causeway Bay Typhoon Shelter – the section of approximately 160m long of the SCL tunnel protection works at the crossing over Central-Wan Chai Bypass (CWB) tunnels, which would be constructed under the CWB project; and
- SCL – Stabling Sidings at Hung Hom Freight Yard [SCL (HHS)] – another stabling sidings option for SCL (TAW – HUH) proposed at the former freight yard in Hung Hom.

1.1 PROJECT DESCRIPTION

Vinci Construction Grands Projets (VCGP) was committed by Mass Transit Railway Corporation Limited (MTRC) as the main contractor to undertake the tunnel section between Hin Keng and Diamond Hill. The Contract period of the project started from 22 October 2012 and to be completed in approximately 68 months.

The main Works to be carried out can be summarized as follows:

1. Hin Keng cut and cover tunnel and associated works;
2. Running tunnel between Hin Keng and Ma Chai Hang Ventilation Building (Drill and Blast excavation);
3. Ma Chai Hang Ventilation Building and the connecting Emergency Vehicular Access;
4. Northbound and Southbound running tunnels from Ma Chai Hang ventilation building to west end of SCL DIH station (Tunnel Boring Machine excavation);
5. Fung Tak EAP / EEP building and associated cross passages connecting mainline tunnels.
6. Re-provisioning of Refuse Collection Point (RCP) at Hin Keng and associated ABWF and Building Services works;
7. RRIW which include:
   (i) Public Transport Terminus (PTT) at Fung Tak;
   (ii) Temporary reprovisioning of affected LCSD facilities including children playground, amenity area, landscape area and a 5-a-side football pitch during constructions;
   (iii) Permanent reprovisioning of affected LCSD facilities including children playground, maintenance shed, amenity area, landscape area and a 11-a-side footballpitch upon completion of Works;
   (iv) All associated ABWF and Building Services works for the items above.
8. Design, modify, operate, maintain and remove the Magazine constructed under other Works Contract;
9. Tree felling, off site tree compensation, transplanting works, landscaping works, landscape external lighting, signage and irrigation works;
10. Provision and installation of BAV room sliding doors at MCV and all cross tunnel doors inside tunnels between Hin Keng Station(HIK) and Diamond Hill Station (SCL DIH);
11. Interface requirement associated with Designated Contracts;
12. Provision in auxiliary buildings, tunnels, shaft and adits for installation of equipment and services by Designated and Interfacing Contracts;
13. Associated Architectural Builders' Works and Finishes;
14. Provisions of utilities between the existing networks and the Auxillary Buildings; and
15. SEM provisions including the following and the like, earthing mats, cast-in items, cross track ducts, U/G pipes, cable draw pits, earthing pits, cast-in conduit etc along trackside.
16. Interface requirement associated with the Designated Contract.
17. Other Civil Engineering Works

1.2 PURPOSE OF THIS CONSTRUCTION NOISE MITIGATION MEASURES PLAN

The Environmental Impact Assessment (EIA) for the project (Register No. AEIAR-167/2012) was approved by the Environmental Protection Department (EPD) in February 2012. In July 2012, an Environmental Permit (EP-438/2012) was issued. Applications of variation of EP were subsequently made in relation to Construction and Demolition Materials Management Plan, Sediment Management Plan and figures. The latest VEP (EP-438/2012/B) was issued from EPD on 26 October 2012.

This updated CNMMP is prepared and submitted to EPD to fulfill the requirements under Condition 2.9 of VEP (EP No: EP-438/2012/B) of the Project aimed to further reduce the air-borne construction noise impacts on the noise sensitive receivers (NSRs) shown in Table 1 of the VEP with exceedance after mitigation in air-borne construction noise impact as predicted in the approved SCL (TAW-HUH) EIA Report (Register No. AEIAR-167/2012), SCL (HHS) EIA Report (Register No. AEIAR-164/2012) and Construction Noise Mitigation Measures Plan, CNMMP (Version 4.0) of Works Contact 1106.

To fulfill the requirements of VEP Condition 2.9, the following information has been included in the CNMMP.

- Schedule of construction works to be carried out at the works areas of the Project within 300m from the NSRs;
- Updated construction methodology of the construction works;
- Updated powered mechanical equipment (PME) list for the construction works;
- Updated proposal of air-borne noise mitigation measures for the 19 NSRs as shown in Table 1 of the EP, including the provision of noise barriers, enclosures and Indirect Technical Remedies (ITR);
- Updated prediction of noise levels in accordance with the above updated information and mitigation proposals in place.

Before submission to the Director of the Environmental Protection, this CNMMP will be certified by the Environmental Team (ET) Leader and verified by the Independent Environmental Checker (IEC) as conforming to the relevant information and recommendations contained in the approved SCL (TAW-HUH) EIA Report (Register No. AEIAR-167/2012) and SCL (HHS) EIA Report (Register No. AEIAR-164/2012)

2.0 SUMMARY AND DESCRIPTION OF WORKS DETAILS AND STUDY AREA

2.1 NOISE SENSITIVE RECEIVERS

One NSR at Hin Keng and three NSRs at Diamond Hill are covered in this plan. Their locations are shown in Table 2.1. The layout plans of the works area showing the NSRs and their distance to the works area are provided in Appendix B.

Table 2.1 List of noise sensitive receivers (NSRs)

NSR ID	NSR Description	Uses [1]	Criterion dB(A) [2]
TAW-6-7	CUHKAA Thomas Cheung School	E	70(65)
DIH-9-1	Shek On Building	E+W	70(65)
DIH-13-1	Canossa Primary School	E	70(65)
DIH-14-4	Canossa Primary School (San Po Kong)	E	70(65)

Notes:

[1] R- Residential; E- Educational Institution; W- Worship

[2] Values in parentheses indicate the noise criterion during examination period (typical examination period in May, June, November and December) of educational institution

2.2 CONSTRUCTION METHODOLOGY

The proposed construction methodology is generally following that presented in Section 3 of the approved SCL (TAW-HUH) EIA Report. The tunnel section between HIK to MCV will be constructed by drill and blast methods, while the section between MCV to DIH would be constructed by bored tunnelling. D-walls and other associated underground structure will be constructed by in-situ concreting.

A breakdown of the major construction activities in sequence to be carried out within the contract are provided in Appendix A.

2.3 UPDATED CONSTRUCTION PROGRAMME

The updated construction programme prepared by VCGP has been used in this CNMMP and has been presented on a monthly basis for the duration of the construction works in corresponding worksites. The construction schedule has been adjusted such that to minimize concurrent construction works to be carried out in the vicinity as far as practicable. The updated preliminary construction programme is provided in Appendix A.

Since the contract awarded, the scope of works at Hin Keng has been evolved, it is very likely that the provision of a new Refuse Collection Point in Area 47 will be cancelled. This change is expected to induce less impact to the NSRs. At the same time, the scope of the works in Area 46 is changing to RCP modification to its original demolition works. It is expected that the noise levels generated due to this change would be less than the original scope since less works and plants are needed.

2.4 UPDATED POWERED MECHANICAL EQUIPMENT LIST

The updated Powered Mechanical Equipment (PME) list for the construction works is provided in Table 2.2. The Sound Power Levels (SWL) for the PMEs have been adopted from EPD's Technical Memorandum on Noise from Construction Work Other than Percussive Piling (GW-TM), list of SWLs of other commonly used PME, or reference from the SCL EIA Reports. It should be noted that the PMEs proposed are commonly available in the Hong Kong market. The PMEs to be adopted for individual construction activities for the Contract are provided in Appendix B.

Table 2.2 Summary of PMEs

PME Description	EPD Identification Code/ EPD Ref/ EIA Ref	Unit Sound Power Level, SWL dB(A)
Air Compressor, air flow >10m^3 and =<30m^3	CNP002	102
Breaker, hand-held, mass > 10kg and < 20kg	CNP024	108
Conveyor Belt	CNP041	90
Concrete lorry mixer	CNP044	109
Concrete Pump, lorry mounted	CNP047	109

PME Description	EPD Identification Code/ EPD Ref/ EIA Ref	Unit Sound Power Level, SWL dB(A)
Crane, mobile	CNP048	112
Tower Crane	CNP049	95
Excavator/Loader, Wheeled/Tracked	CNP081	112
Generator, silenced, 75 dB(A) at 7 m	CNP102	100
Piling, diaphragm wall, bentonite filtering plant	CNP162	105
piling, diaphragm wall, hydraulic extractor	CNP163	90
Piling, earth auger, auger	CNP167	114
Ventilation Fan	CNP241	108
Water Pump, Electric Submersible	CNP283	85
TBM tunneling	EIA Ref	105
Welder/Generator, portable	EIA Ref	100
Drill Rig	EPD Ref	110
Dump truck , 5.5 tonne < gross vehicle weight ≦ 38 tonne	EPD Ref	105
Excavator, mini-robot mounted	EPD Ref	94
Grout Mixer	EPD Ref	90
Grout Pump	EPD Ref	105
Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≦ 38 tonne	EPD Ref	105
Poker, vibratory, hand-held (electric)	EPD Ref	113

"EPD ref" refers to "Sound power levels of other commonly used PME" prepared by the Noise Control Authority http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf

EIA Ref: SWL adopted in the approved SCL(TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

3 NOISE ASSESSMENT AND PROPOSED MITIGATION MEASURES

3.1 ASSESSMENT METHODOLOGY AND ASSUMPTIONS

The construction noise assessment has been carried out in accordance with the methodology used in the approved SCL (TAW-HUH) EIA Report (Register No. AEIAR-167/2012). Notional source distances adopted in the calculation has made reference to those used in the SCL (TAW-HUH) (Register No. AEIAR-167/2012) and SCL (HHS) EIA Report (Register No. AEIAR-164/2012).

The percentage on-time for each PME has been estimated individually for each construction activity to ensure practicality and is consistent with the assumptions made in the EIA Reports. Accumulative impacts for other neighboring SCL contracts to the NSRs in this assessment have been addressed. Assumptions have been made from the EIA reports (SCL(TAW-HUH) EIA Report for HIK Area while SCL (HHS) EIA Report for DIH Area) regarding the works programme, construction details and the planned mitigation measures since the neighboring SCL contracts have not been awarded during the preparation of this assessment. The assessment results might be further review when updated works programme and details are available and necessary.

VCGP confirmed that the programme and plant inventory are reasonable and practicable for completing the Works of Contract 1103 within the scheduled timeframe. All mitigation measures and their effectiveness proposed in the EIA Reports including use of temporary movable noise barrier, enclosure (with sufficient ventilation) and acoustic mat for relatively static plant and acoustic mat have been considered in this CNMMP.

To reflect the actual site condition and the development of the work stages, the works areas have been redefined. For DIH works area, the demarcation of the works areas are basically following the classification used in SCL (HHS) EIA report, while regrouping of the works area has been conducted at HIK works area (see Appendix B) such as to actually reflect the stages according to the works programme. However, the notional distances were remaining the same as the EIA reports since no change in the geographical location was anticipated. Layout plans showing the relationship between the works areas and the distance are provided in Appendix B.

3.2 PROPOSED MITIGATION STRATEGY AND NOISE ASSESSMENT RESULTS

Noise Mitigation Strategy

The predicted construction noise levels show that the unmitigated construction noise impacts would be potentially exceed the noise criteria. Mitigation measures are therefore required. The following mitigation measures have been considered:

- Good site practices to limit noise emissions at the source;
- Use of quiet plant and working methods;
- Use of site hoarding as noise barrier to screen noise at ground level of NSRs;
- Use of shrouds / temporary noise barriers to screen noise from relatively static PMEs;

- Use of large full enclosure to screen all the plant;
- Scheduling of construction works outside school examination periods in critical area; and
- Alternative use of plant items within one worksite, wherever practicable.

In this assessment, noise barriers, noise enclosures and acoustic mats are the major mitigation measures to be adopted for PMEs. According to the approved SCL (TAW_HUH) EIA Report (Register No. AEIAR-167/2012), the noise reduction efficiency of the mitigation measures is as follows:

Enclosure for relatively static plant	-10dB(A)
Barrier for movable plant	-5dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

Noise Assessment Results

The air-borne construction noise impacts from the construction activities have been assessed and summarized in Table 3.1. The calculation details for each works area are provided in Appendix B . The proposed mitigation measures described above are included in the assessment and, as such, only the mitigated scenario has been presented.

Table 3.1 Updated Noise Assessment Summary

NSR	Noise Criteria dB(A)		CNMMP Prediction	
	Normal	Examination*	Maximum	Exceedance Months
TAW-6-7 [1]	70	65	66	1
DIH-9-1	70	65	67	0
DIH-13-1	70	65	63	0
DIH-14-4	70	65	67	0

* For educational institutions during examination period only (typical examination period in May, June, November and December)

[1] For 2013, the examination period of CUHKAA Thomas Cheung School (TAW-6-7) is scheduled on mid of April and mid of June. The schedules of examination period in Nov and Dec are not yet confirmed.

According to the above table, all NSRs are in compliance except there will be one exceedance expected at TAW-6-7 on Mid of April 2013 as the school had confirmed that their examination is scheduled on mid of April 2013.. Nevertheless, the predicted construction noise level in Apr 2013 is 66 dB(A) which is slightly over (+1 dB(A)) the limit level,i.e. 65 dB(A) It is believed that with the mitigation measures properly implemented, the residual impacts have been minimized. The neighboring contract 1106 has been awarded but the neighboring contract 1102 has not been awarded during the preparation of this CNMMP. The actual work schedules and details would be further reviewed and updated.

3.3 INDIRECT TECHNICAL REMEDIES (ITR)

Residual impacts have been minimised with implementation of all practically and technically feasible noise mitigation measures, including the use of quiet PME, temporary movable noise barriers, noise enclosure and acoustic mat for various construction plant, and grouping of PMEs.

Due to the closed proximity to the affect NSRs, in particular the educational institution nearby, residual impacts could not be abated by further direct mitigation measures. The Project Team will facilitate communications with concerned parties on the residual impacts during construction and review to consider other initiatives, such as ITR, if required. Also regular meetings with nearby residents, other stakeholders and government departments will be held to establish well communication channels. However, it should be noted that the use of ITR as a mitigation measure is neither a requirement regulated under Annex 13 of the TM-EIAO nor the EIA Study Brief. However, the provision of ITR may be considered as the last resort to reduce the noise nuisance arisen from the construction of SCL (TAW-HUH).

4 CONCLUSIONS

With the implementation of the proposed noise mitigation measures, construction noise impacts are now predicted to be reduced in respect of both exceedances and duration. For the slightly exceedance of limit level at TAW-6-7 on mid Apr 2013, it is believed that the exceedance could be manageable through site administration and better communication. Further review and update will be performed during the construction phase and liaison with affected parties is recommended to minimize the construction noise impacts as much as practicable.

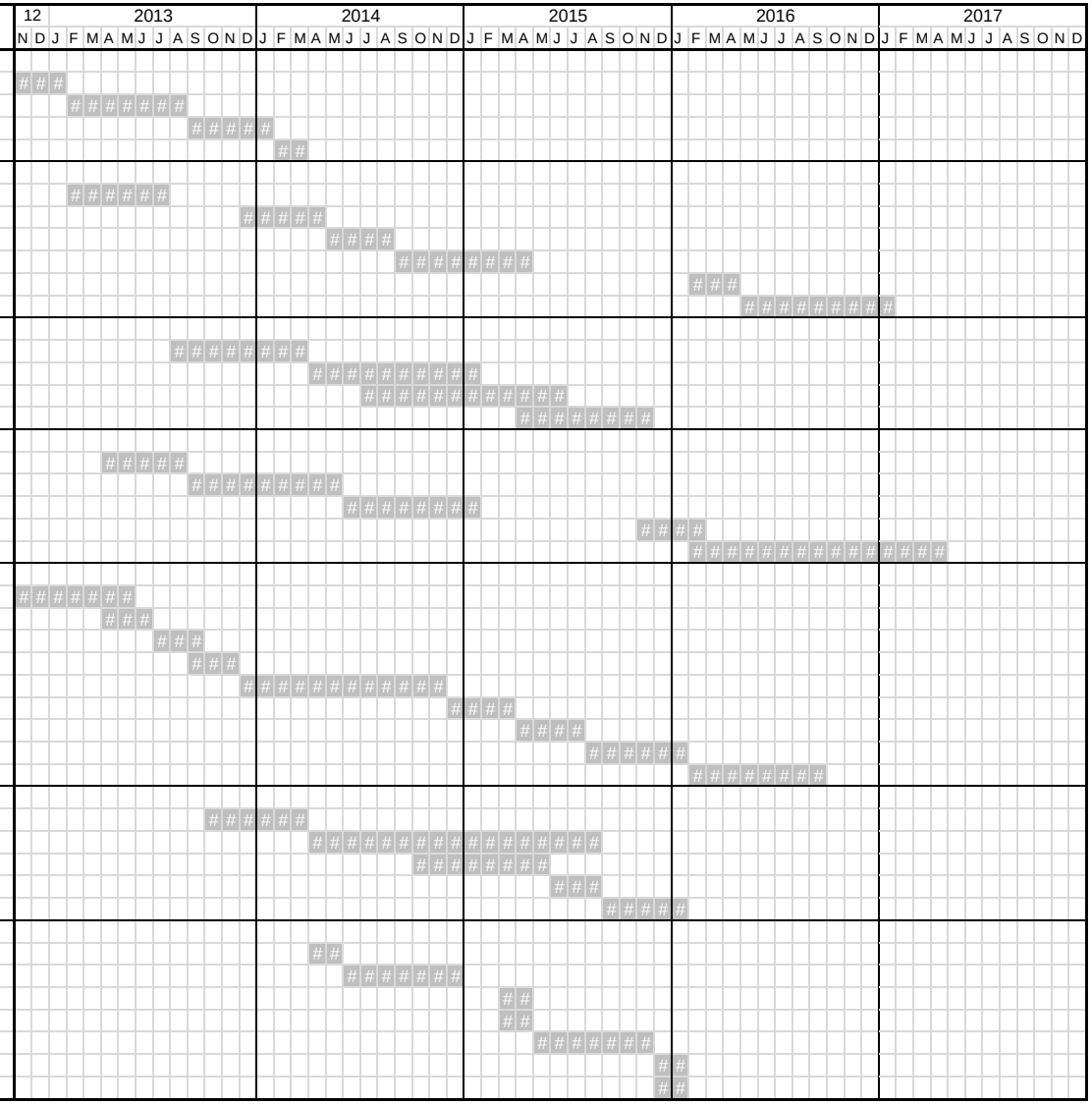
APPENDIX A

THE UPDATED CONSTRUCTION PROGRAMME AND WORK STAGES

MTRC Shatin to Central Link Contract 1103
Hin Keng to Diamond Hill Tunnels

Summary Programme for Major Works

Item	Works	Start	Finish
1.0	Diamond Hill		
1.1	Site set-up	Nov-12	Jan-13
1.2	D-Wall	Feb-13	Aug-13
1.3	Shaft Excavation & ELS	Sep-13	Jan-14
1.3	Base Slab	Feb-14	Mar-14
2.0	Fung Tak Shaft		
2.1	Site set-up /Utilities	Feb-13	Jul-13
2.2	D-Wall	Dec-13	Apr-14
2.3	Shaft Excavation & ELS	May-14	Aug-14
2.4	Structural concrete	Sep-14	Apr-15
2.5	Remaining structures after tunnel connections	Feb-16	Apr-16
2.6	ABWF / Exteranl works / Landscaping	May-16	Jan-17
3.0	Fung Tak PTT		
3.1	D-wall and pipe piles	Aug-13	Mar-14
3.2	Excavation & ELS	Apr-14	Jan-15
3.3	Foundation and structural concrete	Jul-14	Jun-15
3.4	ABWF and BS / External works / Landscaping	Apr-15	Nov-15
4.0	Ma Chai Heng		
4.1	Site set-up / LCSD temporary facilities	Apr-13	Aug-13
4.1	D-Wall	Sep-13	May-14
4.1	Shaft Excavation	Jun-14	Jan-15
4.1	Structural concrete	Nov-15	Feb-16
4.1	ABWF / Exteranl works / Reinstatement / Landscaping	Feb-16	Apr-17
5.0	Hin Keng		
5.1	Site set-up / Site formation / Temporay RCP	Nov-12	May-13
5.1	Stage 1 Pipe pile & grouting	Apr-13	Jun-13
5.1	Stage 1 Excavation & ELS	Jul-13	Sep-13
5.1	Installation of conveyor system	Sep-13	Nov-13
5.1	Gas main diversion	Dec-13	Nov-14
5.1	Stage 2 Pipe pile & grouting	Dec-14	Mar-15
5.1	Stage 2 Excavation & ELS	Apr-15	Jul-15
5.1	Structural concrete	Aug-15	Jan-16
5.1	Site formation / RCP / Landscaping	Feb-16	Sep-16
6.0	LRT Tunnels		
6.1	Mined tunnel from Hin Keng	Oct-13	Mar-14
6.1	D&B tunnel form Hin Keng	Apr-14	Aug-15
6.1	Mined tunnel from MCV	Oct-14	May-15
6.1	D&B tunnel form MCV	Jun-15	Aug-15
6.1	Concrete Lining	Sep-15	Jan-16
7.0	TBM Tunnel		
7.1	TBM set up at DIH	Apr-14	May-14
7.1	TBM from DIH to MCV Up-track tunnel	Jun-14	Dec-14
7.1	Up-track tunnel - base slab & walkway	Mar-15	Apr-15
7.1	TBM U-turn at MCV	Mar-15	Apr-15
7.1	TBM from MCV to DIH Down-track tunnel	May-15	Nov-15
7.1	Removal of TBM at DIH	Dec-15	Jan-16
7.1	Down-track tunnel - base slab & walkway	Dec-15	Jan-16



APPENDIX B

PROPOSED MITIGATION MEASURES AND DETAILED NOISE ASSESSMENT

B1 - DIAMOND HILL WORKS AREA

MTRC Shatin to Central Link Contract 1103
Hin Keng to Diamond Hill Tunnels

A. Summary Programme for Major Works

Item	Works Activity	Area S1	Area S2	Area S10	EPD Id Ref./EPD Ref/ EIA Ref*	SWL	No. of units	2012 N	2012 D	2013 J	2013 F	2013 M	2013 A	2013 M	2013 J	2013 J	2013 A	2013 S	2013 O	2013 N	2013 D	2014 J	2014 F	2014 M	2014 A	2014 M	2014 J	2014 J	2014 A	2014 S	2014 O	2014 N	2014 D	2015 J	2015 F	2015 M	2015 A	2015 M	2015 J	2015 J	2015 A	2015 S	2015 O	2015 N	2015 D	2016 J	2016 F	2016 M	2016 A	2016 M	2016 J	2016 J	2016 A	2016 S	2016 O	2016 N	2016 D	2017 J	2017 F	2017 M	2017 A	2017 M	2017 J	2017 J	2017 A	2017 S	2017 O	2017 N	2017 D
	Diamond Hill																																																																							
DIH-01	Site set-up	X	X	X				0	0	0																																																												
	Mobile Crane				CNP048	112	1	110	110	110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Excavator/Loader, Wheeled/Tracked				CNP081	112	2																																																															
	Generator, silenced, 75dB at 7m				CNP102	100	2																																																														
	Drill Rigs				EPD ref	110	2																																																													
	Crane Lorry				CNP145	105	1																																																													
	Dump Truck				EPD ref	105	2																																																													
	Air Compressor, air flow >10m3 and =<30m3				CNP002	100	1																																																													
DIH-02	D-Wall	X	X								0	0	0	0	0	0	0																																																				
	Piling, diaphragm wall, bentonite filtering plant				CNP162	105	1	0	0	0	111	111	111	111	111	111	111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	piling, diaphragm wall, hydraulic extractor				CNP163	90	3																																																													
	Excavator/Loader, Wheeled/Tracked				CNP081	112	3																																																													
	Air Compressor, air flow >10m3 and =<30m3				CNP002	102	2																																																													
	Generator, silenced, 75dB at 7m				CNP102	100	4																																																													
	Mobile Crane				CNP048	112	2																																																													
	Grout Mixer				EPD ref	90	2																																																													
	Grout Pump				EPD ref	105	4																																																													
DIH-03	Shaft Excavation & ELS	X	X															0	0	0	0	0																																																
	Mobile Crane				CNP048	112	1	0	0	0	0	0	0	0	0	0	0	111	111	111	111	111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Excavator/Loader, Wheeled/Tracked				CNP081	112	4																																																													
	Generator, silenced, 75dB at 7m				CNP102	100	4																																																													
	Air Compressor, air flow >10m3 and =<30m3				CNP002	102	2																																																													
	Dump Truck				EPD ref	105	2																																																													
	Loader				CNP081	112	2																																																													
	Welding Machine				EIA ref	100	4																																																													
	Crane Lorry				EPD ref	105	1																																																													
DIH-04	Base Slab	X	X																				0	0																																													
	Concrete Mixer				CNP044	109	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	109	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Concrete Pump				CNP054	109	1																																																													
	Air Compressor, air flow >10m3 and =<30m3				CNP002	102	1																																																													
	Generator, silenced, 75dB at 7m				CNP102	100	4																																																													
	Poker, Vibratory, Hand Held				EPD ref	113	1																																																													
	Mobile Crane				CNP048	112	1																																																													
DIH-05	TBM set up at DIH	X	X																						0	0																																											
	TBM tunneling,Bentonite filtering plant				CNP162	101	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	108	108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Mobile Crane				CNP048	112	1																																																													
	Lorry				EPD ref	105	1																																																													
	Welding Machine				CNP107	100	4																																																													
	Air Compressor, air flow >10m3 and =<30m3				CNP002	102	1																																																													
	Dump Trucks				-	105	2																																																													
	Tower Crane				CNP049	95	1																																																													
	Ventilation Fans				CNP241	108	1																																																													
DIH-06	TBM from DIH to MCV Up-track tunnel	X	X																								0	0	0	0	0	0	0																																										
	TBM tunneling,Bentonite filtering plant				CNP162	101	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Lorry				-	105	1																																																													
	Air Compressor, air flow >10m3 and =<30m3				CNP002	102	1																																																													
	Ventilation Fans				CNP241	108	1																																																													
DIH-07	Up-track tunnel - base slab & walkway	X	X																																	0	0																																		
	Concrete Mixer				CNP044	109	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	109	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Concrete Pump				CNP054	109	1																																																													
	Air Compressor, air flow >10m3 and =<30m3				CNP002	102	1																																																													
	Generator, silenced, 75dB at 7m				CNP102	100	4																																																													
	Poker, Vibratory, Hand Held				CNP170	113	1																																																													
	Mobile Crane				CNP048	112	1																																																													
DIH-08	Removal of TBM at DIH	X	X																																											0	0																											
	Mobile Crane				CNP048	112	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	108	108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tower Crane				CNP049	95	1																																																													
	Air Compressor, air flow >10m3 and =<30m3				CNP002	102	1																																																													
	Ventilation Fan				CNP241	108	1																																																													
	Lorry				-	105	2																																																												
DIH-09	Down-track tunnel - base slab & walkway	X	X																																										0	0																											
	Concrete Mixer				CNP044	109	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	109	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Concrete Pump				CNP054	109	1																																																													
	Air Compressor, air flow >10m3 and =<30m3				CNP002	102	1																																																													
	Generator, silenced, 75dB at 7m				CNP102	100	4																																																													
	Poker, Vibratory, Hand Held				CNP170	113	1																																																													
	Mobile Crane				CNP048	112	1																																																													

* EPD Ref - Sound power levels of other commonly used PME" prepared by the Noise Control Authority http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf
EIA Ref- Sound power levels referenced from the approved EIA Reports of this SCL Project

B. Sound Power Level from Contract 1103 (Works Site Reference were taken from SCL (HHS) EIA Report)

Works Area / Total SWL(dB(A))	2012		2013												2014												2015												2016												2017											
	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
Area S1	110	110	110	111	111	111	111	111	111	111	111	111	111	111	111	109	109	108	108	100	100	100	100	100	100	100	0	0	109	109	0	0	0	0	0	0	0	112	112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site set-up	110	110	110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D-Wall	0	0	0	111	111	111	111	111	111	111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shaft Excavation & ELS	0	0	0	0	0	0	0	0	0	0	111	111	111	111	111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Base Slab	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	109	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TBM set up at DIH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	108	108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TBM from DIH to MCV Up-track tunnel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Up-track tunnel - base slab & walkway	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	109	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Removal of TBM at DIH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	108	108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Down-track tunnel - base slab & walkway	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	109	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Area S2	110	110	110	111	111	111	111	111	111	111	111	111	111	111	111	109	109	108	108	100	100	100	100	100	100	100	0	0	109	109	0	0	0	0	0	0	0	112	112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site set-up	110	110	110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D-Wall	0	0	0	111	111	111	111	111	111	111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shaft Excavation & ELS	0	0	0	0	0	0	0	0	0	0	111	111	111	111	111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Base Slab	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	109	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TBM set up at DIH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	108	108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TBM from DIH to MCV Up-track tunnel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Up-track tunnel - base slab & walkway	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	109	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Removal of TBM at DIH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	108	108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Down-track tunnel - base slab & walkway	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	109	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Area S10	110	110	110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site set-up	110	110	110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

C. Noise Contribution From other works area under 1106

Works Area / Total SWL(dB(A))	2012		2013												2014												2015												2016												2017											
	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
Worksite S1	0	0	0	0	0	0	0	0	104	104	104	112	112	113	106	106	111	111	106	106	106	101	0	0	104	106	112	112	0	108	108	0	104	104	104	104	104	104	104	104	104	105	105	105	110	108	108	108	108	105	105	0	0	0	0	0	0	0	0	0	0	0
Worksite S2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	104	104	104	104	104	107	107	107	107	107	107	107	108	108	108	108	104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S3	0	111	111	111	104	104	104	104	104	104	104	104	104	0	0	0	108	113	108	108	108	108	108	110	106	106	106	106	109	109	109	109	109	109	106	106	106	106	106	0	98	98	98	98	98	98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S3A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S4	0	111	111	111	104	104	104	104	104	112	104	104	104	109	108	105	105	105	105	105	109	107	107	107	107	107	107	107	107	107	107	107	107	107	107	0	0	0	0	0	98	98	98	98	98	98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S5	0	111	111	111	0	0	0	104	104	104	106	108	109	108	108	108	108	108	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	98	98	98	98	98	98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	115	115	115	0	111	111	111	0	0	0	111	111	111	111	0	0	0	0	0	0	0	0	106	106	112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	114	114	114	0	111	111	111	109	109	109	113	113	113	113	109	109	109	109	109	109	109	109	109	111	106	112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S8	0	0	0	0	0	0	0	0	0	0	110	110	110	110	103	103	103	105	105	105	106	106	106	0	86	0	0	86	0	104	104	104	107	107	107	108	108	108	0	104	104	104	108	109	110	112	111	111	108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	104	104	0	0	0	0	0	0	100	100	100	99	103	100	100	107	111	109	103	107	107	107	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S11	0	0	0	0	0	103	107	104	106	106	106	106	106	106	106	106	106	106	106	106	106	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	104	104	104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S14	0	0	0	0	0	0	0	101	105	105	105	105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S15	0	0	0	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S16	0	0	104	104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	106	106	106	106	106	0	0	0	0	0	0	0	0	0	0

Noise Contribution from other works area under SCL Works Contract 1107 (The figures are extracted from the latest CNMMP of Works Contract 1107)

Works Area/Total SWL (dB(A))	2012		2013												2014												2015												2016												2017											
	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Worksite S3a	0	0	0	0	0	0	0	0	0	0	0	115	115	115	115	115	115	115	0	109	109	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S14	0	0	0	0	0	0	0	0	0	0	0	108	108	108	101	101	101	101	0	0	0	0	0	0	103	103	103	103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix D:Accumulated Noise Level on NSRs

NSR ID	NSR Description	Distance, m	Corr. for Distance, dB (A)	Facade Correction, dB(A)	Total Correction, dB(A)	Predicted Construction Noise Level dB(A)																									
						2012		2013												2014											
						11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
DIH 9-1	**Shek On Building**																														
	Worksite S1	210	-54.4	3	-51.4	59	59	59	60	60	60	60	60	60	60	60	63	63	64	61	59	62	62	59	56	56	52	49	49	54	56
	Worksite S2	260	-56.3	3	-53.3	57	57	57	58	58	58	58	58	58	58	58	58	58	58	58	56	56	55	55	47	47	47	47	47	47	47
	Worksite S3																														
	Worksite S3a																														
	Worksite S4																														
	Worksite S5																														
	Worksite S6	285	-57.1	3	-54.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	61	61	61	0	57	57	57	0	0	0	57
	Worksite S7	245	-55.8	3	-52.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	61	61	61	0	58	58	58	57	57	57	61
	Worksite S8	275	-56.8	3	-53.8	0	0	0	0	0	0	0	0	0	0	56	56	56	56	49	49	49	51	51	51	53	53	53	0	32	0
	Worksite S9	275	-56.8	3	-53.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	50	0	0	0	0	0
	Worksite S10	275	-56.8	3	-53.8	56	56	56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S11																														
	Worksite S12																														
	Worksite S13	285	-57.1	3	-54.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	50	50	0	0	0	0	0	0
	Worksite S14																														
	Worksite S15																														
	Worksite S16																														
	Predicted Noise Level at NSR (dB(A))					**62**	**62**	**62**	**62**	**62**	**62**	**62**	**62**	**62**	**62**	**63**	**65**	**65**	**65**	**63**	**66**	**67**	**67**	**61**	**63**	**63**	**62**	**59**	**58**	**59**	**63**
DIH 13-1	**Canossa Primary School**																														
	Worksite S1	**265**	-56.4	3	-53.4	57	57	57	58	58	58	58	58	58	58	58	61	61	62	59	57	60	60	57	54	54	50	47	47	52	54
	Worksite S2																														
	Worksite S3																														
	Worksite S3a																														
	Worksite S4																														
	Worksite S5																														
	Worksite S6																														
	Worksite S7	295	-57.4	3	-54.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60	60	60	0	57	57	57	55	55	55	59
	Worksite S8																														
	Worksite S9																														
	Worksite S10																														
	Worksite S11																														
	Worksite S12																														
	Worksite S13																														
	Worksite S14																														
	Worksite S15																														
	Worksite S16																														
	Predicted Noise Level at NSR (dB(A))					**57**	**57**	**57**	**58**	**58**	**58**	**58**	**58**	**58**	**58**	**58**	**61**	**61**	**62**	**59**	**62**	**63**	**63**	**57**	**58**	**58**	**58**	**56**	**56**	**57**	**60**
DIH 14-4	**Canossa Primary School (San Po Kong)**																														
	Worksite S1																														
	Worksite S2																														
	Worksite S3	250	-55.9	3	-52.9	0	58	58	58	51	51	51	51	51	51	51	51	51	0	0	0	55	60	55	55	55	55	55	57	53	53
	Worksite S3a																														
	Worksite S4	205	-54.2	3	-51.2	0	59	59	59	53	53	53	53	53	61	53	53	53	58	56	53	53	53	53	53	58	55	55	55	55	55
	Worksite S5	180	-53.1	3	-50.1	0	60	60	60	0	0	0	0	54	54	54	55	58	59	58	58	58	58	58	56	56	56	56	56	56	56
	Worksite S6	280	-56.9	3	-53.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	61	61	61	0	57	57	57	0	0	0	57
	Worksite S7	250	-55.9	3	-52.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	61	61	61	0	58	58	58	56	56	56	60
	Worksite S8	280	-56.9	3	-53.9	0	0	0	0	0	0	0	0	0	0	56	56	56	56	49	49	49	51	51	51	52	52	52	0	32	0
	Worksite S9																														
	Worksite S10	245	-55.8	3	-52.8	57	57	57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S11	154	-51.7	3	-48.7	0	0	0	0	0	54	58	55	58	58	58	58	58	58	58	58	58	58	58	58	58	48	48	48	48	48
	Worksite S12	105	-48.4	3	-45.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S13																														
	Worksite S14	200	-54.0	3	-51.0	0	0	0	0	0	0	0	0	0	0	0	57	57	57	50	50	50	50	0	0	0	0	0	0	52	52
	Worksite S15	136	-50.7	3	-47.7	0	0	0	0	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55
	Worksite S16	148	-51.4	3	-48.4	0	0	56	56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Predicted Noise Level at NSR (dB(A))					**57**	**65**	**65**	**65**	**58**	**60**	**61**	**60**	**62**	**64**	**63**	**64**	**64**	**65**	**63**	**66**	**67**	**67**	**63**	**65**	**65**	**64**	**63**	**63**	**63**	**65**

NSR ID	NSR Description	Predicted Construction Noise Level dB(A)																																			
		2015												2016												2017											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
DIH 9-1	**Shek On Building**																																				
	Worksite S1	61	60	58	60	56	0	53	53	53	53	53	61	61	53	53	54	54	54	54	58	56	56	56	56	54	54	0	0	0	0	0	0	0	0	0	0
	Worksite S2	0	0	56	57	51	51	51	51	54	54	54	60	60	54	54	55	55	55	55	55	51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S3																																				
	Worksite S3a																																				
	Worksite S4																																				
	Worksite S5																																				
	Worksite S6	57	57	57	0	0	0	0	0	0	0	0	52	52	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S7	61	61	61	57	57	57	57	57	57	57	57	58	54	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S8	0	32	0	51	51	51	54	54	54	54	54	54	0	51	51	51	54	55	56	58	57	57	54	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S9	0	46	46	46	45	49	47	47	53	57	56	49	53	53	53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S11																																				
	Worksite S12																																				
	Worksite S13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S14																																				
	Worksite S15																																				
	Worksite S16																																				
	Predicted Noise Level at NSR (dB(A))	**64**	**64**	**64**	**63**	**61**	**59**	**60**	**60**	**61**	**62**	**62**	**65**	**65**	**64**	**59**	**58**	**59**	**59**	**60**	**62**	**60**	**60**	**59**	**56**	**54**	**54**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
DIH 13-1	**Canossa Primary School**																																				
	Worksite S1	59	58	56	58	54	0	51	51	51	51	51	59	59	51	51	52	52	52	52	56	54	54	54	54	52	52	0	0	0	0	0	0	0	0	0	0
	Worksite S2																																				
	Worksite S3																																				
	Worksite S3a																																				
	Worksite S4																																				
	Worksite S5																																				
	Worksite S6																																				
	Worksite S7	59	59	59	55	55	55	55	55	55	55	55	57	52	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S8																																				
	Worksite S9																																				
	Worksite S10																																				
	Worksite S11																																				
	Worksite S12																																				
	Worksite S13																																				
	Worksite S14																																				
	Worksite S15																																				
	Worksite S16																																				
	Predicted Noise Level at NSR (dB(A))	**62**	**62**	**61**	**60**	**58**	**55**	**56**	**56**	**56**	**56**	**56**	**61**	**60**	**59**	**51**	**52**	**52**	**52**	**52**	**56**	**54**	**54**	**54**	**54**	**52**	**52**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
DIH 14-4	**Canossa Primary School (San Po Kong)**																																				
	Worksite S1																																				
	Worksite S2																																				
	Worksite S3	53	53	56	56	56	56	56	56	53	53	53	53	53	0	45	45	45	45	45	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S3a																																				
	Worksite S4	55	55	55	55	55	55	55	55	55	0	0	0	0	0	47	47	47	47	47	47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S5	56	56	56	56	56	56	56	56	56	56	56	56	56	56	48	48	48	48	48	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S6	57	57	57	0	0	0	0	0	0	0	0	52	52	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S7	60	60	60	56	56	56	56	56	56	56	56	58	53	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S8	0	32	0	50	50	50	54	54	54	54	54	54	0	50	50	50	54	55	56	58	57	57	54	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S9																																				
	Worksite S10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S11	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	62	62	62	62	62	62	0	0	0	0	0
	Worksite S13																																				
	Worksite S14	52	52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S15	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58	58	58	58	58	0	0	0	0	0	0	0
	Predicted Noise Level at NSR (dB(A))	**65**	**65**	**65**	**63**	**63**	**63**	**63**	**63**	**63**	**62**	**62**	**63**	**62**	**64**	**58**	**58**	**59**	**59**	**60**	**61**	**60**	**60**	**58**	**56**	**58**	**64**	**64**	**64**	**64**	**62**	**62**	**0**	**0**	**0**	**0**	**0**

Construction Plant Inventory - Diamond Hill (DIH)

Works Stage DIH-01: Site Setup

PME Details	TM ref/ EPD ref/ EIA ref [1]	SWL[2]	no	Usage (%)	Combined SWL	Noise Mitigation [2]	Noise Reduction [2]
Crane, mobile	CNP048	112	1	30	107		
Excavator/Loader, Wheeled/Tracked	CNP081	112	2	30	110	noise barrier	5
Generator, silenced, 75 dB(A) at 7 m	CNP102	100	2	100	103	Enclosure/ acoustic mat	10
Drill Rig	EPD Ref	110	2	50	110	noise barrier	10
Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≦38 tonne	EPD Ref	105	1	30	100	noise barrier	5
Dump truck , 5.5 tonne < gross vehicle weight ≦ 38 tonne	EPD Ref	105	2	30	103	noise barrier	5
Air Compressor, air flow >10m^3 and =<30m^3	CNP002	102	1	40	98	Enclosure/ acoustic mat	10
				Mitigated SWL (dB(A))	110		

Notes:

[1] EPD Ref: SWLs refer "Sound power levels of other commonly used PME" prepared by the Noise Control Authority http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf,

EIA Ref: SWL adopted in the approved SCL(TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

[2] Noise mitigation reductions are reference to the approved SCL (TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

Enclosure for relatively static plant -10dB(A)

Barrier for movable plant -5dB(A)

Barrier for relatively static plant -10dB(A)

Construction Plant Inventory - Diamond Hill (DIH)

Works Stage DIH-02: D-wall construction

PME Details	TM ref/ EPD ref/ EIA ref [1]	SWL[2]	no	Usage (%)	Combined SWL	Noise Mitigation [2]	Noise Reduction [2]
Piling, diaphragm wall, bentonite filtering plant	CNP162	105	1	50	102	acoustic mat	10
Piling, diaphragm wall, hydraulic extractor	CNP163	90	3	50	92	acoustic mat	10
Excavator/Loader, Wheeled/Tracked	CNP081	112	3	25	111	noise barrier	5
Air Compressor, air flow >10m^3 and =<30m^3	CNP002	102	2	30	100	Enclosure/ acoustic mat	10
Generator, silenced, 75 dB(A) at 7 m	CNP102	100	4	100	106	Enclosure/ acoustic mat	10
Crane, mobile	CNP048	112	2	25	109		
Grout Mixer	EPD Ref	90	2	30	88	noise barrier	10
Grout Pump	EPD Ref	105	4	30	106	noise barrier	10
Mitigated SWL (dB(A))					111		

Notes:

[1] EPD Ref: SWLs refer "Sound power levels of other commonly used PME" prepared by the Noise Control Authority http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf,

EIA Ref: SWL adopted in the approved SCL(TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

[2] Noise mitigation reductions are reference to the approved SCL (TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

Enclosure for relatively static plant	-10dB(A)
Barrier for movable plant	-5dB(A)
Barrier for relatively static plant	-10dB(A)
Acoustic mat	-10dB(A)

Construction Plant Inventory - Diamond Hill (DIH)

Works Stage DIH-03: Shaft Excavation and ELS works

PME Details	TM ref/ EPD ref/ EIA ref [1]	SWL[2]	no	Usage (%)	Combined SWL	Noise Mitigation [2]	Noise Reduction [2]
Crane, mobile	CNP048	112	1	25	106		
Excavator/Loader, Wheeled/Tracked	CNP081	112	4	20	111	noise barrier	5
Generator, silenced, 75 dB(A) at 7 m	CNP102	100	4	100	106	noise barrier	10
Air Compressor, air flow >10m^3 and =<30m^3	CNP002	102	2	30	100	Enclosure/ acoustic mat	10
Loader	CNP081	112	2	20	108	Noise barrier	5
Dump truck , 5.5 tonne < gross vehicle weight ≦ 38 tonne	EPD Ref	105	2	20	101	noise barrier	5
Welder/Generator, portable	EIA Ref	100	4	40	102	noise barrier	10
Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≦ 38 tonne	EPD Ref	105	1	30	100	noise barrier	5
Mitigated SWL (dB(A))					111		

Notes:

[1] EPD Ref: SWLs refer "Sound power levels of other commonly used PME" prepared by the Noise Control Authority http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf,

EIA Ref: SWL adopted in the approved SCL(TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

[2] Noise mitigation reductions are reference to the approved SCL (TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

Enclosure for relatively static plant	-10dB(A)
Barrier for movable plant	-5dB(A)
Barrier for relatively static plant	-10dB(A)

Construction Plant Inventory - Diamond Hill (DIH)

Works Stage DIH-04: Base slab construction and concreting works

PME Details	TM ref/ EPD ref/ EIA ref [1]	SWL[2]	no	Usage (%)	Combined SWL	Noise Mitigation [2]	Noise Reduction [2]
Concrete lorry mixer	CNP044	109	1	50	106	noise barrier	5
Concrete Pump, lorry mounted	CNP047	109	1	50	106	noise barrier	5
Air Compressor, air flow >10m^3 and =<30m^3	CNP002	102	1	30	97	Enclosure/ acoustic mat	10
Generator, silenced, 75 dB(A) at 7 m	CNP102	100	2	100	103	Enclosure/ acoustic mat	10
Poker, vibratory, hand-held (electric)	EPD Ref	113	1	50	110	noise barrier	10
Crane, mobile	CNP048	112	1	30	107		
Mitigated SWL (dB(A))					109		

Notes:

[1] EPD Ref: SWLs refer "Sound power levels of other commonly used PME" prepared by the Noise Control Authority http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf,

EIA Ref: SWL adopted in the approved SCL(TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

[2] Noise mitigation reductions are reference to the approved SCL (TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

Enclosure for relatively static plant	-10dB(A)
Barrier for movable plant	-5dB(A)
Barrier for relatively static plant	-10dB(A)

Construction Plant Inventory - Diamond Hill (DIH)

Works Stage DIH-05: TBM Setup and assembly

PME Details	TM ref/ EPD ref/ EIA ref [1]	SWL[2]	no	Usage (%)	Combined SWL	Noise Mitigation [2]	Noise Reduction [2]
TBM tunneling	EIA Ref	105	1	40	101	enclosure	10
Crane, mobile	CNP048	112	1	30	107		
Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≦ 38 tonne	EPD Ref	105	1	30	100	noise barrier	5
Welder/Generator, portable	EIA Ref	100	4	30	101	Enclosure/ acoustic mat	10
Air Compressor, air flow >10m^3 and =<30m^3	CNP002	102	1	30	97	Enclosure/ acoustic mat	10
Dump truck , 5.5 tonne < gross vehicle weight ≦ 38 tonnes	EPD Ref	105	2	30	103	noise barrier	5
Tower Crane	CNP049	95	1	30	90		
Ventilation Fan	CNP241	108	1	100	108	Enclosure/ acoustic mat	10
Mitigated SWL (dB(A))					108		

Notes:

[1] EPD Ref: SWLs refer "Sound power levels of other commonly used PME" prepared by the Noise Control Authority http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf,

EIA Ref: SWL adopted in the approved SCL(TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

[2] Noise mitigation reductions are reference to the approved SCL (TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

Enclosure for relatively static plant -10dB(A) Barrier for movable plant -5dB(A)

Barrier for relatively static plant -10dB(A)

Construction Plant Inventory - Diamond Hill (DIH)

Works Stage DIH-06: TBM from DIH to MCV Up-track tunnel

PME Details	TM ref/ EPD ref/ EIA ref [1]	SWL[2]	no	Usage (%)	Combined SWL	Noise Mitigation [2]	Noise Reduction [2]
TBM tunneling	EIA Ref	105	1	40	101	enclosure	10
Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≦ 38 tonne	EPD Ref	105	1	30	100	noise barrier	5
Air Compressor, air flow >10m^3 and =<30m^3	CNP002	102	1	30	97	noise barrier	10
Ventilation Fan	CNP241	108	1	100	108	noise barrier	10
				Mitigated SWL (dB(A))	100		

Notes:

[1] EPD Ref: SWLs refer "Sound power levels of other commonly used PME" prepared by the Noise Control Authority http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf,

EIA Ref: SWL adopted in the approved SCL(TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

[2] Noise mitigation reductions are reference to the approved SCL (TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

Enclosure for relatively static plant	-10dB(A)
Barrier for movable plant	-5dB(A)
Barrier for relatively static plant	-10dB(A)

Construction Plant Inventory - Diamond Hill (DIH)

Works Stage DIH-07: Up-track tunnel - base slab & walkway

PME Details	TM ref/ EPD ref/ EIA ref [1]	SWL[2]	no	Usage (%)	Combined SWL	Noise Mitigation [2]	Noise Reduction [2]
Concrete lorry mixer	CNP044	109	1	50	106	noise barrier	5
Concrete Pump, lorry mounted	CNP047	109	1	50	106	noise barrier	5
Air Compressor, air flow >10m^3 and =<30m^3	CNP002	102	1	30	97	Enclosure/ acoustic mat	10
Generator, silenced, 75 dB(A) at 7 m	CNP102	100	4	100	106	Enclosure/ acoustic mat	10
Poker, vibratory, hand-held (electric)	EPD Ref	113	1	50	110	noise barrier	10
Crane, mobile	CNP048	112	1	30	107		
Mitigated SWL (dB(A))					109		

Notes:

[1] EPD Ref: SWLs refer "Sound power levels of other commonly used PME" prepared by the Noise Control Authority http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf,
EIA Ref: SWL adopted in the approved SCL(TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

[2] Noise mitigation reductions are reference to the approved SCL (TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

Enclosure for relatively static plant	-10dB(A)
Barrier for movable plant	-5dB(A)
Barrier for relatively static plant	-10dB(A)

Construction Plant Inventory - Diamond Hill (DIH)

Works Stage DIH-08: Removal of TBM at DIH

PME Details	TM ref/ EPD ref/ EIA ref [1]	SWL[2]	no	Usage (%)	Combined SWL	Noise Mitigation [2]	Noise Reduction [2]
Crane, mobile	CNP048	112	1	30	107		
Tower Crane	CNP049	95	1	30	90		
Air Compressor, air flow >10m^3 and =<30m^3	CNP002	102	1	40	98	Enclosure/ acoustic mat	10
Ventilation Fan	CNP241	108	1	100	108	Enclosure/ acoustic mat	10
Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≦ 38 tonne	EPD Ref	105	2	30	103	noise barrier	5
				Mitigated SWL (dB(A))	108		

Notes:

[1] EPD Ref: SWLs refer "Sound power levels of other commonly used PME" prepared by the Noise Control Authority http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf,

EIA Ref: SWL adopted in the approved SCL(TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

[2] Noise mitigation reductions are reference to the approved SCL (TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

Enclosure for relatively static plant	-10dB(A)
Barrier for movable plant	-5dB(A)
Barrier for relatively static plant	-10dB(A)

Construction Plant Inventory - Diamond Hill (DIH)

Works Stage DIH-09: Down-track tunnel - base slab & walkway

PME Details	TM ref/ EPD ref/ EIA ref [1]	SWL[2]	no	Usage (%)	Combined SWL	Noise Mitigation [2]	Noise Reduction [2]
Concrete lorry mixer	CNP044	109	1	50	106	noise barrier	5
Concrete Pump, lorry mounted	CNP047	109	1	50	106	noise barrier	5
Air Compressor, air flow >10m^3 and =<30m^3	CNP002	102	1	30	97	Enclosure/ acoustic mat	10
Generator, silenced, 75 dB(A) at 7 m	CNP102	100	4	100	106	Enclosure/ acoustic mat	10
Poker, vibratory, hand-held (electric)	EPD Ref	113	1	50	110	Enclosure/ acoustic mat	10
Crane, mobile	CNP048	112	1	30	107		
Mitigated SWL (dB(A))					109		

Notes:

[1] EPD Ref: SWLs refer "Sound power levels of other commonly used PME" prepared by the Noise Control Authority http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf,
EIA Ref: SWL adopted in the approved SCL(TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

[2] Noise mitigation reductions are reference to the approved SCL (TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

Enclosure for relatively static plant	-10dB(A)
Barrier for movable plant	-5dB(A)
Barrier for relatively static plant	-10dB(A)

Notional Distance from Construction Sites to NSRs (in meter)

[Extracted from Appendix 8.10H of approved SCL (HHS) EIA Report except for Worksites S3a, S11, S15 & S16]

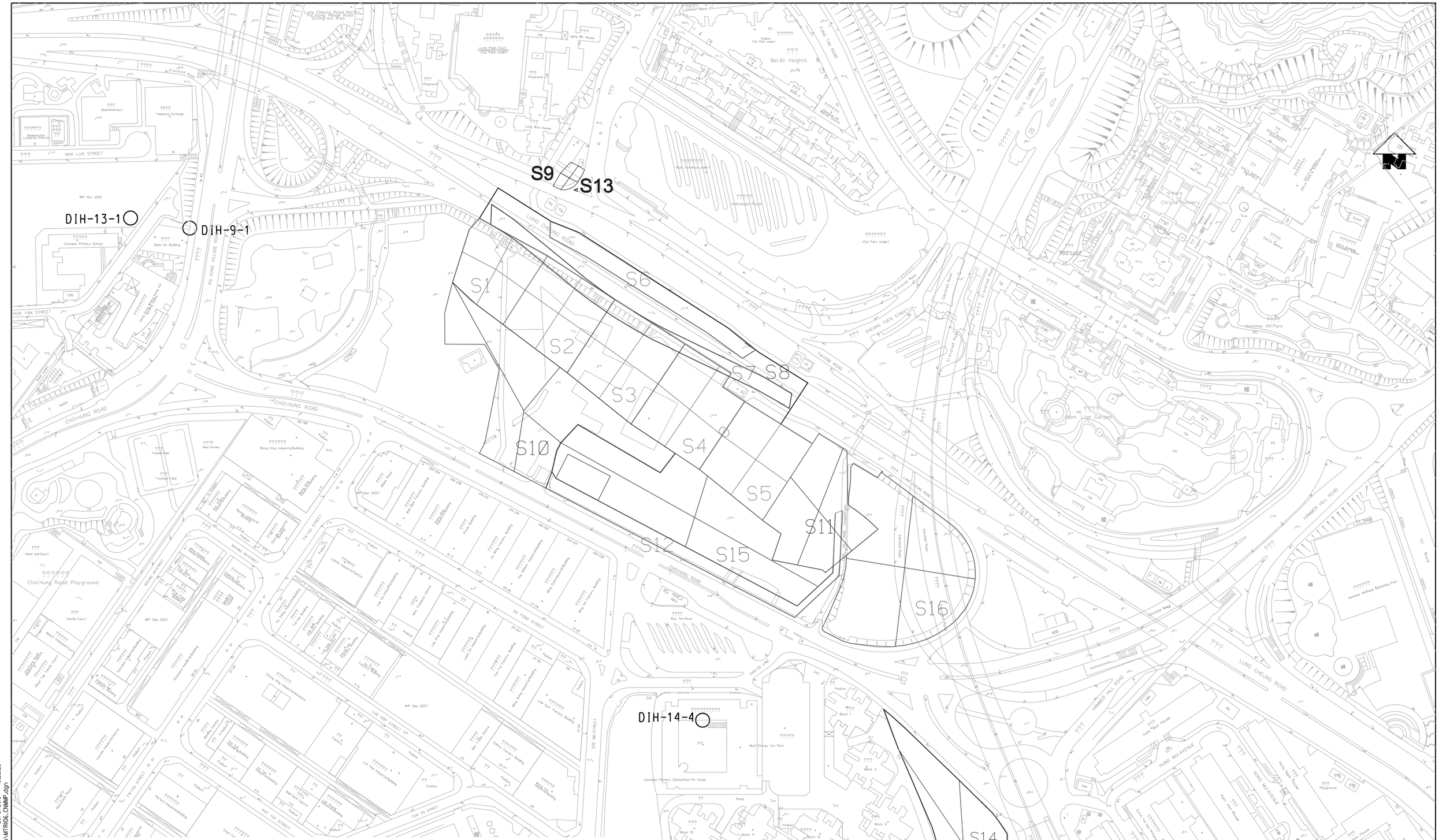
NSRs	Worksite																
	SCL Works Contract 1103 & 1106															SCL Works Contract 1107	
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11[2]	S12	S13	S15[3]	S16[3]	S3a[1]	S14
DIH-9-1	210	260				285	245	275	275	275			285				
DIH-13-1	265						295										
DIH-14-4			250	205	180	280	250	280		245	154	105		136	148		200

Note:

(1) Worksite S3a is under SCL Works Contract 1107 but not included in the approved SCL (HHS) EIA Report.

(2) Worksite S11 is re-delineated due to extended works area based on the latest information submitted under the SCL(TAW-HUH) EP and hence notional distances are updated accordingly.

(3) Worksites S15 & S16 are extended works areas based on the latest information submitted under the SCL(TAW-HUH) EP which are not included in the approved SCL (HHS) EIA Report.



National Distance bewteen NSRs and SCL1103 Works Area

	S1	S2	S10	S14	S15	S16
DIH-9-1	210m	260m	275m	-	-	-
DIH-13-1	265m	-	-	-	-	-
DIH-14-4	-	-	245m	200m	136m	148m

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B2 – HIN KENG WORKS AREA

MTRC Shatin to Central Link Contract 1103
Hin Keng to Diamond Hill Tunnels

A. Summary Programme for Major Works

Item	Works Activity	Area 1	Area 2	Area 3	EPD Id Ref./EPD Ref/ EIA Ref*	SWL	no. of units
	Hin Keng						
HIK-01/	Site set-up / Site formation	x	x				
HIK-02A	Mini Backhoe				CNP082	94	2
	Generator, silenced, 75dB at 7m				CNP102	100	2
	Drill Rigs				CNP072	110	3
	Crane Lorry				CNP145	105	1
	Dump Truck				EPD ref	105	2
	Air Compressor, air flow >10m3 and =<30m3				CNP102	102	1
HIK-02B	Refuse Collection Point modification			x			
	Lorry, Crane/Grab				CNP145	105	1
	Welding Machine				CNP107	100	4
	Generator, silenced, 75dB at 7m				CNP102	100	4
	Breaker, Excavator Mounted (Hydraulic)				CNP028	122	1
HIK-03	Stage 1 Pipe pile & grouting	x	x				
	Piling Rig and Drilling Rig				CNP167	114	1
	Air Compressor, air flow >10m3 and =<30m3				CNP102	102	3
	Crane Lorry				CNP145	105	2
	Grout Mixer				EPD ref	90	1
	Grout Pump				EPD ref	105	4
HIK-04	Stage 1 Excavation & ELS	x	x				
	Excavator/Loader, Wheeled/Tracked				CNP081	112	1
	Generator, silenced, 75dB at 7m				CNP102	100	2
	Air Compressor, air flow >10m3 and =<30m3				CNP002	102	2
	Dump Truck				EPD ref	105	1
	Welding Machine				CNP107	100	3
	Crane Lorry				CNP 145	105	1
HIK-05	Installation of conveyor system	x	x				
	Mobile Crane				CNP048	112	1
	Crane Lorry				CNP 145	105	1
	Welding Machine				CNP107	100	4
	Generator, silenced, 75dB at 7m				CNP102	100	4
HIK-06	Mined tunnel from Hin Keng	x	x				
	Piling Rig and Drilling Rig				CNP167	114	1
	Excavator/Loader, Wheeled/Tracked				CNP081	112	1
	Water Pump, Electric Submersible				CNP283	85	1
	Ventilation Fan				CNP241	108	1
	Conveyor Belt				CNP041	90	2
HIK-07	D&B tunnel from Hin Keng	x	x				
	Piling Rig and Drilling Rig				CNP167	114	1
	Excavator/Loader, Wheeled/Tracked				CNP081	112	1
	Water Pump, Electric Submersible				CNP283	85	1
	Ventilation Fan				CNP241	108	1
	Conveyor Belt				CNP041	90	2
HIK-08	Gas main diversion	x	x				
	Crane Lorry				CNP 145	105	1
	Breaker, Excavator Mounted (Hydraulic)				CNP028	122	1
	Excavator/Loader, Wheeled/Tracked				CNP081	112	2
HIK-09	Stage 2 Pipe pile & grouting	x	x				
	Piling Rig and Drilling Rig				CNP167	114	1
	Crane Lorry				CNP145	105	1
	Grout Mixer				EPD ref	90	2
	Grout Pump				EPD ref	105	4
HIK-10	Stage 2 Excavation & ELS	x	x				
	Excavator/Loader, Wheeled/Tracked				CNP081	112	1
	Generator, silenced, 75dB at 7m				CNP102	100	2
	Air Compressor, air flow >10m3 and =<30m3				CNP002	102	2
	Dump Truck				EPD ref	105	1
	Welding Machine				CNP107	100	3
	Crane Lorry				CNP 145	105	1
HIK-11	Structural concrete	x	x				
	Concrete Mixer				CNP044	109	1
	Concrete Pump				CNP054	109	1
	Air Compressor, air flow >10m3 and =<30m3				CNP002	102	1
	Poker, Vibratory, Hand Held				CNP170	113	1
HIK-12	Concrete Lining	x	x				
	Concrete Mixer				CNP044	109	1
	Concrete Pump				CNP054	109	1
	Air Compressor, air flow >10m3 and =<30m3				CNP002	102	1
	Poker, Vibratory, Hand Held				CNP170	113	1
HIK-13	Site formation / Landscaping	x	x				
	Excavator/Loader, Wheeled/Tracked				CNP081	112	1
	Crane Lorry				CNP 145	105	1
	Generator, silenced, 75dB at 7m				CNP102	100	2
	Dump Truck				EPD ref	105	2

Item	Works Activity	2012 N	2012 D	2013 J	2013 F	2013 M	2013 A	2013 M	2013 J	2013 J	2013 A	2013 S	2013 O	2013 N	2013 D	2014 J	2014 F	2014 M	2014 A	2014 M	2014 J	2014 J	2014 A	2014 S	2014 O	2014 N	2014 D	2015 J	2015 F	2015 M	2015 A	2015 M	2015 J	2015 J	2015 A	2015 S	2015 O	2015 N	2015 D	2016 J	2016 F	2016 M	2016 A	2016 M	2016 J	2016 J	2016 A	2016 S	2016 O	2016 N	2016 D	2017 J	2017 F	2017 M	2017 A	2017 M	2017 J	2017 J	2017 A	2017 S	2017 O	2017 N	2017 D
HIK-01/	Site set-up / Site formation	o	o	o	o	o	o	o	o																																																							
HIK-02A	Mini Backhoe	109	109	109	109	109	109	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Generator, silenced, 75dB at 7m																																																																
	Drill Rigs																																																																
	Crane Lorry																																																																
	Dump Truck																																																																
	Air Compressor, air flow >10m3 and =<30m3																																																																
HIK-02B	Refuse Collection Point modification				o	o	o	o																																																									
	Lorry, Crane/Grab	0	0	0	106	106	106	106	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Welding Machine																																																																
	Generator, silenced, 75dB at 7m																																																																
	Breaker, Excavator Mounted (Hydraulic)																																																																
HIK-03	Stage 1 Pipe pile & grouting					o	o	o																																																								
	Piling Rig and Drilling Rig	0	0	0	0	109	109	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Air Compressor, air flow >10m3 and =<30m3																																																																
	Crane Lorry																																																																
	Grout Mixer																																																																
	Grout Pump																																																																
HIK-04	Stage 1 Excavation & ELS									o	o	o																																																				
	Excavator/Loader, Wheeled/Tracked	0	0	0	0	0	0	0	104	104	104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Generator, silenced, 75dB at 7m																																																																
	Air Compressor, air flow >10m3 and =<30m3																																																																
	Dump Truck																																																																
	Welding Machine																																																																
	Crane Lorry																																																																
HIK-05	Installation of conveyor system											o	o	o																																																		
	Mobile Crane	0	0	0	0	0	0	0	0	0	108	108	108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Crane Lorry																																																																
	Welding Machine																																																																
	Generator, silenced, 75dB at 7m																																																																
HIK-06	Mined tunnel from Hin Keng											o	o	o	o	o	o																																																
	Piling Rig and Drilling Rig	0	0	0	0	0	0	0	0	0	0	107	107	107	107	107	107	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Excavator/Loader, Wheeled/Tracked																																																																
	Water Pump, Electric Submersible																																																																
	Ventilation Fan																																																																
	Conveyor Belt																																																																
HIK-07	D&B tunnel from Hin Keng																	o	o	o	o	o	o	o	o	o	o	o	o	o	o																																	
	Piling Rig and Drilling Rig	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	107	107	107	107	107	107	107	107	107	107	107	107	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Excavator/Loader, Wheeled/Tracked																																																																
	Water Pump, Electric Submersible																																																																
	Ventilation Fan																																																																
	Conveyor Belt																																																																
HIK-08	Gas main diversion													o	o	o	o	o	o	o	o	o	o	o	o	o																																							
	Crane Lorry	0	0	0	0	0	0	0	0	0	0	0	0	108	108	108	108	108	108	108	108	108	108	108	108	108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Breaker, Excavator Mounted (Hydraulic)																																																																
	Excavator/Loader, Wheeled/Tracked																																																																
HIK-09	Stage 2 Pipe pile & grouting																									o	o	o	o																																				
	Piling Rig and Drilling Rig	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	108	108	108	108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Crane Lorry																																																																
	Grout Mixer																																																																
	Grout Pump																																																																
HIK-10	Stage 2 Excavation & ELS																													o	o	o	o																																
	Excavator/Loader, Wheeled/Tracked	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	103	103	103	103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Generator, silenced, 75dB at 7m																																																																
	Air Compressor, air flow >10m3 and =<30m3																																																																
	Dump Truck																																																																
	Welding Machine																																																																
	Crane Lorry																																																																
HIK-11	Structural concrete																																	o	o	o	o	o	o																										
	Concrete Mixer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	104	104	104	104	104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Concrete Pump																																																																
	Air Compressor, air flow >10m3 and =<30m3																																																																
	Poker, Vibratory, Hand Held																																																																
HIK-12	Concrete Lining																																			o	o	o	o																										
	Concrete Mixer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	104	104	104	104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Concrete Pump																																																																
	Air Compressor, air flow >10m3 and =<30m3																																																																
	Poker, Vibratory, Hand Held																																																																
HIK-13	Site formation / Landscaping																																							o	o	o	o	o	o	o																		
	Excavator/Loader, Wheeled/Tracked	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	109	109	109	109	109	109	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Crane Lorry																																																																
	Generator, silenced, 75dB at 7m																																																																
	Dump Truck																																																																

* EPD Ref - Sound power levels of other commonly used PME" prepared by the Noise Control Authority http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf
EIA Ref- Sound power levels referenced from the approved EIA Reports of this SCL Project

B. Sound Power Level from Contract 1103 (Works Site Reference were taken from SCL (TAW_HUH) EIA Report)

Works Area / Total SWL(dB(A))	2012		2013												2014												2015												2016												2017											
	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
Area 1 = S17/S19/S21/S25	109	109	109	109	109	112	112	109	104	104	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	108	103	103	103	104	107	107	107	107	109	109	109	109	109	109	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site set-up / Site formation	109	109	109	109	109	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Refuse Collection Point modification	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stage 1 Pipe pile & grouting	0	0	0	0	0	109	109	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stage 1 Excavation & ELS	0	0	0	0	0	0	0	0	104	104	104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Installation of conveyor system	0	0	0	0	0	0	0	0	0	0	108	108	108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mined tunnel from Hin Keng	0	0	0	0	0	0	0	0	0	0	0	107	107	107	107	107	107	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D&B tunnel from Hin Keng	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	107	107	107	107	107	107	107	107	107	107	107	107	107	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gas main diversion	0	0	0	0	0	0	0	0	0	0	0	0	0	108	108	108	108	108	108	108	108	108	108	108	108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stage 2 Pipe pile & grouting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	108	108	108	108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stage 2 Excavation & ELS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	103	103	103	103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Structural concrete	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	104	104	104	104	104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Concrete Lining	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	104	104	104	104	104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site formation / Landscaping	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	109	109	109	109	109	109	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Area 2 = S18/S20/S22/S24/S26/S28	109	109	109	109	109	112	112	109	104	104	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	108	103	103	103	104	107	107	107	107	109	109	109	109	109	109	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site set-up / Site formation	109	109	109	109	109	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Refuse Collection Point modification	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stage 1 Pipe pile & grouting	0	0	0	0	0	109	109	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stage 1 Excavation & ELS	0	0	0	0	0	0	0	0	104	104	104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Installation of conveyor system	0	0	0	0	0	0	0	0	0	0	108	108	108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mined tunnel from Hin Keng	0	0	0	0	0	0	0	0	0	0	0	107	107	107	107	107	107	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D&B tunnel from Hin Keng	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	107	107	107	107	107	107	107	107	107	107	107	107	107	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gas main diversion	0	0	0	0	0	0	0	0	0	0	0	0	0	108	108	108	108	108	108	108	108	108	108	108	108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stage 2 Pipe pile & grouting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	108	108	108	108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stage 2 Excavation & ELS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	103	103	103	103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Structural concrete	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	104	104	104	104	104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Concrete Lining	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	104	104	104	104	104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site formation / Landscaping	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	109	109	109	109	109	109	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Area 3 = S46	0	0	0	106	106	106	106	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site set-up / Site formation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Refuse Collection Point modification	0	0	0	106	106	106	106	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stage 1 Pipe pile & grouting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stage 1 Excavation & ELS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Installation of conveyor system	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mined tunnel from Hin Keng	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D&B tunnel from Hin Keng	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gas main diversion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stage 2 Pipe pile & grouting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stage 2 Excavation & ELS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Structural concrete	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Concrete Lining	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site formation / Landscaping	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

C. Noise Contribution From other works area under 1102

Works Area / Total SWL(dB(A))	2012		2013												2014												2015												2016												2017											
	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
HIK Station Stage 1 S1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	109	109	109	110	103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HIK Station Stage 1 S2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	109	109	109	110	103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HIK Station Stage 1 S3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	109	109	109	110	103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HIK Station Stage 2 S4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	110	109	109	109	109	109	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HIK Station Stage 2 S5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	110	109	109	109	109	109	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HIK Station Stage 2 S6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	110	109	109	109	109	109	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HIK Station Stage 2 S7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	110	109	109	109	109	109	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HIK Station Stage 3 S8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	104	104	104	104	104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HIK Station Stage 3 S9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	83	104	104	104	0	0	0	0	0	0	0	0	0	0	0	0
HIK Station Stage 3 S10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	107	107	107	104	104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HIK Station Stage 3 S11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	104	104	104	104	0	0	0	0	0	0	0	0	0	0	0	0
HIK Station Stage 3 S11a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	87	87	87	87	87	87	87	87	0	0	0	0	0	0	0	0	0	0	0	0
HIK Station Stage 4 S12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	98	98	98	98	0	0	0	0	0	0	0	0	0	0	0	0
HIK Station Stage 5 S13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	98	98	98	0	0	0	0	0	0	0	0	0	0
HIK Station Stage 5 S14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	101	101	101	0	0	0	0	0	0	0	0	0
HIK Station Stage 5 S15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	101	101	101	0	0	0	0	0	0	0	0	0
HIK Station Stage 5 S16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	101	101	101	0	0	0	0	0	0	0	0	0
Worksite S31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	99	99	99	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HIK At Grade Box Section Construction Stage 1 S32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	108	108	108	108	108	106	106	107	107	107	107	107	106	0	0	0	0	0
HIK At Grade Box Section Stage 1 S33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	108	108	108	108	108	108	102	0	102	102	102	102	0	0	0
HIK Viaduct Stage 2 S34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	109	108	106	102	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HIK Viaduct Stage 2 S35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	105	105	108	106	102	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HIK Viaduct Stage 2 S36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	105	108	106	102	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HIK Viaduct Stage 2 S37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	105	107	108	102	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HIK Viaduct Stage 3 S38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102	102	102	102	102	102	102	102	102	103	96	96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HIK Viaduct Stage 3 S39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102	103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HIK Viaduct Stage 4 S40	0	0	0	0	0	0	0	0	0	0	104	104	104	104	104	104	0	0	0	0	0	106	106	106	106	106	106	106	106	106	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HIK Viaduct Stage 5 S41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	96	96	96	96	96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HIK Viaduct Stage 5 S42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HIK Viaduct Stage 6 S43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	96	96	96	96	96	96	96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S45	0	0	0	0	0	0	0	0	0	0	0	111	111	111	111	111	111	111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

D. Accumulated Noise Level at Receivers

NSR ID	NSR Description	Use	Criterion dB(A)		Distance (m)	Distance Correction dB(A)	Façade Correction dB(A)	Total Correction dB(A)	Noise Level at Receivers, dB(A)																																																										
			no exam	exams					2012		2013												2014												2015												2016												2017											
									N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
TAW-6-7	C.U.H.K.A.A. Thomas Cheung School #	E	70	65					62	62	62	64	64	66	66	62	58	58	63	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	62	57	57	57	57	60	60	60	60	60	62	62	62	62	62	63	63	63	60	60	59	59	59	59	56	55	56	56	51	51	51	0	0
	From Area 1				230	-55	3	-52	57	57	57	57	57	60	60	57	52	52	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	56	51	51	51	52	55	55	55	55	55	56	56	56	56	56	56	56	56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	From Area 2				140	-51	3	-48	61	61	61	61	61	64	64	61	57	57	62	63	63	62	62	62	62	62	62	62	62	62	62	62	62	63	63	63	63	60	55	55	55	56	59	59	59	59	59	61	61	61	61	61	61	61	61	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	From Area 3				140	-51	3	-48	0	0	0	58	58	58	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HIK Station Stage 1 S1								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HIK Station Stage 1 S2								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HIK Station Stage 1 S3								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HIK Station Stage 2 S4								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HIK Station Stage 2 S5								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HIK Station Stage 2 S6								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HIK Station Stage 2 S7								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HIK Station Stage 3 S8								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HIK Station Stage 3 S9								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HIK Station Stage 3 S10								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HIK Station Stage 3 S11								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HIK Station Stage 3 S11a								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HIK Station Stage 4 S12								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HIK Station Stage 5 S13								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HIK Station Stage 5 S14								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HIK Station Stage 5 S15								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HIK Station Stage 5 S16								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S31								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HIK At Grade Box Section Construction Stage 1 S32				235	-55	3	-52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	56	56	56	56	56	54	54	55	55	55	55	55	54	0	0	0	0	0
	HIK At Grade Box Section Stage 1 S33				190	-54	3	-51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	57	57	57	57	57	57	51	0	51	51	51	51	51	0	0
	HIK Viaduct Stage 2 S35								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HIK Viaduct Stage 2 S36				285	-57	3	-54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	51	51	54	52	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HIK Viaduct Stage 2 S37				270	-57	3	-54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	51	54	52	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HIK Viaduct Stage 3 S38								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HIK Viaduct Stage 3 S39				300	-58	3	-55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47	47	47	47	47	47	47	47	48	41	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HIK Viaduct Stage 4 S40								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HIK Viaduct Stage 5 S41								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HIK Viaduct Stage 5 S42				235	-55	3	-52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44	44	44	44	44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HIK Viaduct Stage 6 S43								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S45								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

At the time preparaing this CNMMP, the C.U.H.K.A.A Thomas Cheung School (TAW 6-7) had confirmed that examinations in 2nd terms of 2012/2013 would be held in Apr and Jun 2013. Therefore, only April 2013 is predicted exceeding the limit level in this prediction.

Construction Plant Inventory – Hin Keng (HIK)

Works Stage HIK-01: Site Setup

PME Details	TM ref/ EPD ref/ EIA ref [1]	SWL[2]	no	Usage (%)	Combined SWL	Noise Mitigation [2]	Noise Reduction [2]
Excavator, mini-robot mounted	EPD Ref	94	2	20	90		
Generator, silenced, 75 dB(A) at 7 m	CNP102	100	2	80	102	noise barrier/ acoustic mat	5
Drill Rig	EPD Ref	110	3	50	112	noise barrier/ acoustic mat	5
Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≦ 38 tonne	EPD Ref	105	1	30	100		
Dump truck , 5.5 tonne < gross vehicle weight ≦ 38 tonne	EPD Ref	105	2	20	101		
Air Compressor, air flow >10m^3 and =<30m^3	CNP002	102	1	40	98	noise barrier/ acoustic mat	10
Mitigated SWL (dB(A))					109		

Notes:

[1] EPD Ref: SWLs refer "Sound power levels of other commonly used PME" prepared by the Noise Control Authority http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf,
EIA Ref: SWL adopted in the approved SCL(TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

[2] Noise mitigation reductions are reference to the approved SCL (TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

Barrier for relatively static plant -10dB(A)

Construction Plant Inventory – Hin Keng (HIK)

Works Stage HIK-02A: Site Formation

PME Details	TM ref/ EPD ref/ EIA ref [1]	SWL[2]	no	Usage (%)	Combined SWL	Noise Mitigation [2]	Noise Reduction [2]
Excavator, mini-robot mounted	EPD Ref	94	2	20	90		
Generator, silenced, 75 dB(A) at 7 m	CNP102	100	2	80	102	noise barrier/ acoustic mat	5
Drill Rig	EPD Ref	110	3	50	112	noise barrier/ acoustic mat	5
Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≦ 38 tonne	EPD Ref	105	1	30	100		
Dump truck , 5.5 tonne < gross vehicle weight ≦ 38 tonne	EPD Ref	105	2	20	101		
Air Compressor, air flow >10m^3 and =<30m^3	CNP002	102	1	40	98	noise barrier/ acoustic mat	10
				Mitigated SWL (dB(A))	109		

Notes:

[1] EPD Ref: SWLs refer "Sound power levels of other commonly used PME" prepared by the Noise Control Authority http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf,

EIA Ref: SWL adopted in the approved SCL(TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

[2] Noise mitigation reductions are reference to the approved SCL (TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

Barrier for movable plant -5dB(A)

Barrier for relatively static plant -10dB(A)

Construction Plant Inventory – Hin Keng (HIK)

Works Stage HIK-02B: Refuse Collection Point Modification

PME Details	TM ref/ EPD ref/ EIA ref [1]	SWL[2]	no	Usage (%)	Combined SWL	Noise Mitigation [2]	Noise Reduction [2]
Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≦ 38 tonne	EPD Ref	105	1	20	98		
Welder/Generator, portable	EIA Ref	100	4	20	99	noise barrier	5
Generator, silenced, 75 dB(A) at 7 m	CNP102	100	4	80	105	noise barrier	10
Excavator/Loader, Wheeled/Tracked	CNP081	122	1	20	115	noise barrier	10
Mitigated SWL (dB(A))					106		

Notes:

[1] EPD Ref: SWLs refer "Sound power levels of other commonly used PME" prepared by the Noise Control Authority http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf,

EIA Ref: SWL adopted in the approved SCL(TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

[2] Noise mitigation reductions are reference to the approved SCL (TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

Barrier for movable plant -5dB(A)

Barrier for relatively static plant -10dB(A)

Construction Plant Inventory – Hin Keng (HIK)

Works Stage HIK-03: Stage 1 Pipe Pile & Grouting Works

PME Details	TM ref/ EPD ref/ EIA ref [1]	SWL[2]	no	Usage (%)	Combined SWL	Noise Mitigation [2]	Noise Reduction [2]
Piling, earth auger, auger	CNP167	114	1	75	113	noise barrier	5
Air Compressor, air flow >10m^3 and =<30m^3	CNP002	102	2	20	100	noise barrier/ acoustic mat	5
Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≦ 38 tonne	EPD Ref	105	1	20	98		
Grout Mixer	EPD Ref	90	2	30	88	noise barrier/ acoustic mat	10
Grout Pump	EPD Ref	105	4	30	106	noise barrier/ acoustic mat	10
Mitigated SWL (dB(A))					109		

Notes:

[1] EPD Ref: SWLs refer "Sound power levels of other commonly used PME" prepared by the Noise Control Authority http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf,

EIA Ref: SWL adopted in the approved SCL(TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

[2] Noise mitigation reductions are reference to the approved SCL (TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

Barrier for movable plant -5dB(A)

Barrier for relatively static plant -10dB(A)

Construction Plant Inventory – Hin Keng (HIK)

Works Stage HIK-04: Stage 1 Excavation & ELS

PME Details	TM ref/ EPD ref/ EIA ref [1]	SWL[2]	no	Usage (%)	Combined SWL	Noise Mitigation [2]	Noise Reduction [2]
Excavator/Loader, Wheeled/Tracked	CNP081	112	1	20	105	noise barrier	5
Generator, silenced, 75 dB(A) at 7 m	CNP102	100	2	100	103	noise barrier/ acoustic mat	10
Air Compressor, air flow >10m^3 and =<30m^3	CNP002	102	2	30	100	noise barrier/ acoustic mat	10
Dump truck , 5.5 tonne < gross vehicle weight ≦ 38 tonne	EPD Ref	105	1	20	98		
Welder/Generator, portable	EIA Ref	100	3	25	99	noise barrier	5
Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≦ 38 tonne	EPD Ref	105	1	20	98		
				Mitigated SWL (dB(A))	104		

Notes:

[1] EPD Ref: SWLs refer "Sound power levels of other commonly used PME" prepared by the Noise Control Authority http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf,

EIA Ref: SWL adopted in the approved SCL(TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

[2] Noise mitigation reductions are reference to the approved SCL (TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

Barrier for relatively static plant -10dB(A)

Construction Plant Inventory – Hin Keng (HIK)

Works Stage HIK-05: Installation of Conveyor Belt System

PME Details	TM ref/ EPD ref/ EIA ref [1]	SWL[2]	no	Usage (%)	Combined SWL	Noise Mitigation [2]	Noise Reduction [2]
Crane, mobile	CNP048	112	1	30	107		
Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≦ 38 tonne	EPD Ref	105	1	30	100		
Welder/Generator, portable	EIA Ref	100	4	40	102	noise barrier/ acoustic mat	5
Generator, silenced, 75 dB(A) at 7 m	CNP102	100	4	100	106	noise barrier/ acoustic mat	10
Mitigated SWL (dB(A))					108		

Notes:

[1] EPD Ref: SWLs refer "Sound power levels of other commonly used PME" prepared by the Noise Control Authority http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf,

EIA Ref: SWL adopted in the approved SCL(TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

[2] Noise mitigation reductions are reference to the approved SCL (TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

Barrier for relatively static plant -10dB(A)

Construction Plant Inventory – Hin Keng (HIK)

Works Stage HIK-06: Mined tunnel from Hin Keng

PME Details	TM ref/ EPD ref/ EIA ref [1]	SWL[2]	no	Usage (%)	Combined SWL	Noise Mitigation [2]	Noise Reduction [2]
Piling, earth auger, auger	CNP167	114	1	20	107	noise barrier/ acoustic mat	5
Excavator/Loader, Wheeled/Tracked	CNP081	112	1	20	105		5
Water Pump, Electric Submersible	CNP283	85	1	100	85	noise barrier/ acoustic mat	5
Ventilation Fan	CNP241	108	1	100	108	noise barrier/ acoustic mat	5
Conveyor Belt	CNP041	90	2	50	90	enclosure	10
Mitigated SWL (dB(A))					107		

Notes:

[1] EPD Ref: SWLs refer "Sound power levels of other commonly used PME" prepared by the Noise Control Authority http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf,

EIA Ref: SWL adopted in the approved SCL(TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

[2] Noise mitigation reductions are reference to the approved SCL (TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

Enclosure for relatively static plant -10dB(A)

Barrier for relatively static plant -10dB(A)

Construction Plant Inventory – Hin Keng (HIK)

Works Stage HIK-07: D&B tunnel from Hin Keng

PME Details	TM ref/ EPD ref/ EIA ref [1]	SWL[2]	no	Usage (%)	Combined SWL	Noise Mitigation [2]	Noise Reduction [2]
Piling, earth auger, auger	CNP167	114	1	20	107	noise barrier/ acoustic mat	5
Excavator/Loader, Wheeled/Tracked	CNP081	112	1	20	105		5
Water Pump, Electric Submersible	CNP283	85	1	100	85	noise barrier/ acoustic mat	5
Ventilation Fan	CNP241	108	1	100	108	noise barrier/ enclosure	5
Conveyor Belt	CNP041	90	2	50	90	enclosure	10
Mitigated SWL (dB(A))					107		

Notes:

[1] EPD Ref: SWLs refer "Sound power levels of other commonly used PME" prepared by the Noise Control Authority http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf,

EIA Ref: SWL adopted in the approved SCL(TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

[2] Noise mitigation reductions are reference to the approved SCL (TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

Enclosure for relatively static plant -10dB(A)

Barrier for relatively static plant -10dB(A)

Construction Plant Inventory – Hin Keng (HIK)

Works Stage HIK-08: Gas Main Diversion

PME Details	TM ref/ EPD ref/ EIA ref [1]	SWL[2]	no	Usage (%)	Combined SWL	Noise Mitigation [2]	Noise Reduction [2]
Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≦ 38 tonne	EPD Ref	105	1	30	100		
Breaker, hand-held, mass > 10kg and < 20kg	CNP024	108	1	20	101	noise barrier / acoustic mat	10
Excavator/Loader, Wheeled/Tracked	CNP081	112	2	20	108	noise barrier /acoustic mat	10
Mitigated SWL (dB(A))					108		

Notes:

[1] EPD Ref: SWLs refer "Sound power levels of other commonly used PME" prepared by the Noise Control Authority http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf,

EIA Ref: SWL adopted in the approved SCL(TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

[2] Noise mitigation reductions are reference to the approved SCL (TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

Barrier for movable plant -5dB(A)

Barrier for relatively static plant -10dB(A)

Construction Plant Inventory – Hin Keng (HIK)

Works Stage HIK-09: Stage2 Pipe Pile & Grouting

PME Details	TM ref/ EPD ref/ EIA ref [1]	SWL[2]	no	Usage (%)	Combined SWL	Noise Mitigation [2]	Noise Reduction [2]
Piling, earth auger, auger	CNP167	114	1	70	112	noise barrier / acoustic mat	5
Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≦ 38 tonne	EPD Ref	105	1	20	98		
Grout Mixer	EPD Ref	90	2	30	88	noise barrier / acoustic mat	10
Grout Pump	EPD Ref	105	4	30	106	noise barrier / acoustic mat	10
Mitigated SWL (dB(A))					108		

Notes:

[1] EPD Ref: SWLs refer "Sound power levels of other commonly used PME" prepared by the Noise Control Authority http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf,

EIA Ref: SWL adopted in the approved SCL(TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

[2] Noise mitigation reductions are reference to the approved SCL (TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

Barrier for movable plant -5dB(A)

Barrier for relatively static plant -10dB(A)

Construction Plant Inventory – Hin Keng (HIK)

Works Stage HIK-10: Stage 2Excavation & ELS

PME Details	TM ref/ EPD ref/ EIA ref [1]	SWL[2]	no	Usage (%)	Combined SWL	Noise Mitigation [2]	Noise Reduction [2]
Excavator/Loader, Wheeled/Tracked	CNP081	112	1	20	105		10
Generator, silenced, 75 dB(A) at 7 m	CNP102	100	2	100	103	noise barrier / acoustic mat	10
Air Compressor, air flow >10m^3 and =<30m^3	CNP002	102	2	30	100	noise barrier / acoustic mat	10
Dump truck , 5.5 tonne < gross vehicle weight ≦ 38 tonne	EPD Ref	105	1	20	98		
Welder/Generator, portable	EIA Ref	100	3	25	99	noise barrier / acoustic mat	5
Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≦ 38 tonne	EPD Ref	105	1	20	98		
				Mitigated SWL (dB(A))	103		

Notes:

[1] EPD Ref: SWLs refer "Sound power levels of other commonly used PME" prepared by the Noise Control Authority http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf,

EIA Ref: SWL adopted in the approved SCL(TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

[2] Noise mitigation reductions are reference to the approved SCL (TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

Barrier for relatively static plant -10dB(A)

Construction Plant Inventory – Hin Keng (HIK)

Works Stage HIK-11: Structural Concrete

PME Details	TM ref/ EPD ref/ EIA ref [1]	SWL[2]	no	Usage (%)	Combined SWL	Noise Mitigation [2]	Noise Reduction [2]
Concrete lorry mixer	CNP044	109	1	20	102	noise barrier	5
Concrete Pump, lorry mounted	CNP047	109	1	20	102	noise barrier	5
Air Compressor, air flow >10m^3 and =<30m^3	CNP002	102	1	20	95	noise barrier	5
Poker, vibratory, hand-held (electric)	EPD Ref	113	1	20	106	noise barrier	5
				Mitigated SWL (dB(A))	104		

Notes:

[1] EPD Ref: SWLs refer "Sound power levels of other commonly used PME" prepared by the Noise Control Authority http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf,

EIA Ref: SWL adopted in the approved SCL(TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

[2] Noise mitigation reductions are reference to the approved SCL (TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

Barrier for relatively static plant -10dB(A)

Construction Plant Inventory – Hin Keng (HIK)

Works Stage HIK-12: Concrete Lining

PME Details	TM ref/ EPD ref/ EIA ref [1]	SWL[2]	no	Usage (%)	Combined SWL	Noise Mitigation [2]	Noise Reduction [2]
Concrete lorry mixer	CNP044	109	1	20	102	noise barrier	5
Concrete Pump, lorry mounted	CNP047	109	1	20	102	noise barrier	5
Air Compressor, air flow >10m^3 and =<30m^3	CNP002	102	1	20	95	noise barrier	5
Poker, vibratory, hand-held (electric)	EPD Ref	113	1	20	106	noise barrier	5
Mitigated SWL (dB(A))					104		

Notes:

[1] EPD Ref: SWLs refer "Sound power levels of other commonly used PME" prepared by the Noise Control Authority http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf,

EIA Ref: SWL adopted in the approved SCL(TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

[2] Noise mitigation reductions are reference to the approved SCL (TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

Barrier for relatively static plant -10dB(A)

Construction Plant Inventory – Hin Keng (HIK)

Works Stage HIK-13: Site Formation/Landscaping

PME Details	TM ref/ EPD ref/ EIA ref [1]	SWL[2]	no	Usage (%)	Combined SWL	Noise Mitigation [2]	Noise Reduction [2]
Excavator/Loader, Wheeled/Tracked	CNP081	112	1	30	107		
Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≦ 38 tonne	EPD Ref	105	1	30	100		
Generator, silenced, 75 dB(A) at 7 m	CNP102	100	2	50	100	noise barrier	5
Dump truck , 5.5 tonne < gross vehicle weight ≦ 38 tonne	EPD Ref	105	2	20	101		
Mitigated SWL (dB(A))					109		

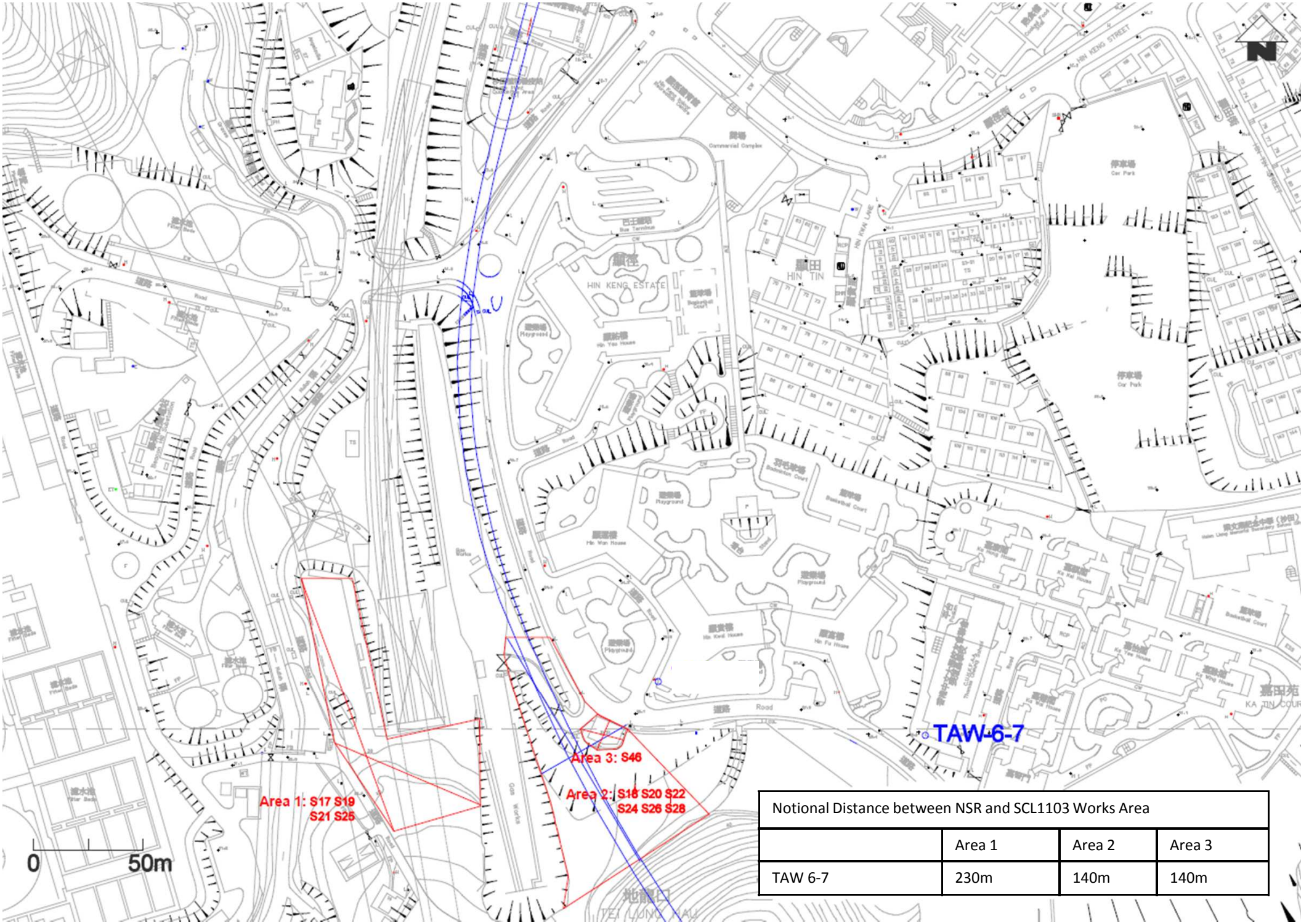
Notes:

[1] EPD Ref: SWLs refer "Sound power levels of other commonly used PME" prepared by the Noise Control Authority http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf,

EIA Ref: SWL adopted in the approved SCL(TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

[2] Noise mitigation reductions are reference to the approved SCL (TAW_HUH) EIA Report (Register No. AEIAR-167/2012)

Barrier for relatively static plant -10dB(A)



Notional Distance between NSR and SCL1103 Works Area			
	Area 1	Area 2	Area 3
TAW 6-7	230m	140m	140m

Appendix D

Construction Noise Mitigation Measures Plan for Contract No. 1106 – Diamond Hill Station

MTR Corporation Limited

Shatin to Central Link – Tai Wai to Hung Hom Section and Mong Kok East to Hung Hom Section

Construction Noise Mitigation Measures Plan (CNMMP)

Works Contract 1106 – Diamond Hill Station

(June 2013)

Certified by: Dr. Priscilla Choy

Position: Environmental Team Leader

Date: 29th May 2013

Sembawang-Leader Joint Venture

Shatin to Central Link – Contract 1106 Diamond Hill Station

Construction Noise Mitigation Measures Plan

(Version 5.3)

May 2013

Certified By	Dr. Priscilla Choy (Environmental Team Leader)

REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

CINOTECH accepts no responsibility for changes made to this report by third parties.

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1 INTRODUCTION

Background

1.1 The Shatin to Central Link – Tai Wai to Hung Hom Section (hereafter referred to as SCL (TAW-HUH)) is an approximately 11 km long extension of the Ma On Shan Line and links up with the West Rail Line at Hung Hom forming a strategic east-west rail corridor. It is a Designated Project under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO).

1.2 The Environmental Impact Assessment (EIA) Report of the SCL (TAW-HUH) (Register No. AEIAR-167/2012) and SCL – Stabling Sidings at Hung Hom Freight Yard (hereafter referred to as SCL (HHS)) (Register No. AEIAR-164/2012) were approved by the Environmental Protection Department (EPD) under the EIAO on 17 February 2012. An Environmental Permit (EP-438/2012) has been issued on 22 March 2012. The EP has been varied recently and a varied EP (EP-438/2012/C) was issued on 30 April 2013.

1.3 The construction of the SCL (TAW-HUH) and SCL (HHS) have been divided into a series of civil construction works contracts. This Works Contract 1106 covers the construction of SCL Diamond Hill Station (DIH) which is under the approved SCL (HHS) EIA Report. This construction contract was awarded to Sembawang-Leader Joint Venture (SLJV) in December 2012.

Purpose of this Construction Noise Mitigation Measures Plan

1.4 According to the Condition 2.9 of the EP-438/2012/C, to further reduce the air-borne construction noise impacts on the 19 noise sensitive receivers (NSRs) shown in Table 1 of the EP with exceedance after mitigation as predicted in the SCL (TAW-HUH) EIA Report (Register No. AEIAR-167/2012) and SCL (HHS) EIA Report (Register No. AEIAR-164/2012), the Permit Holder shall, no later than one month before the commencement of construction of the Project, submit to the Director of Environmental Protection (DEP) for approval four hard copies and one electronic copy of an updated Construction Noise Mitigation Measures Plan (CNMMP) and other initiatives proposed by the Permit Holder. The CNMMP shall include:

- a schedule of construction works to be carried out at the works areas of the Project within 300m from the NSRs;
- an updated construction methodology of the proposed construction works;
- an updated powered mechanical equipment (PME) list for the proposed construction works;
- an updated proposal of air–borne noise mitigation measures for the 19 NSRs as shown in Table 1 of this Permit, including the provision of noise barriers, enclosures and Indirect Technical Remedies;
- an updated prediction of noise levels in accordance with the above updated information and mitigation proposals in place.

1.5 Before submission to the DEP, the CNMMP will be certified by the Environmental Team (ET) Leader and verified by the Independent Environmental Checker (IEC) as conforming to the relevant information and recommendations contained in the approved SCL (TAW-HUH) EIA Report (Register No. AEIAR-167/2012) and

SCL(HHS) EIA Report (Register No. AEIAR-164/2012). All measures recommended in the approved CNMMP will be fully and properly implemented during construction.

1.6 Of the 19 NSRs with residual construction noise impacts identified in the Table 1 of EP-438/2012/C and required to be included in the CNMMP under the EP condition, 5 of them are relevant to Works Contract 1106. The locations of the NSRs covered in this CNMMP are shown in **Appendix C**.

1.7 This CNMMP is prepared to comply with the above-mentioned requirements.

2 DESCRIPTION OF CONSTRUCTION WORKS IN THE STUDY AREA

Noise Sensitive Receivers

2.1 The 300m study areas of the identified 5 NSRs with predicted residual construction noise impacts are shown in **Table 2.1**. The location of the 5 NSRs, the layout plan of worksites and their notional distance to works areas are depicted in **Appendix C**.

Table 2.1 NSRs with Predicted Residual Air-borne Construction Noise Impacts (Extracted from Table 1 of the EP)

NSR ID	NSR Description	Uses[1]	Criterion [2] dB(A)	Predicted Maximum Noise Level dB(A)	Predicted Residual Noise Impact dB(A)
DIH-9-1	Shek On Building	E + W	70 (65) [2]	70 (70)	0 (5) [3]
DIH-13-1	Canossa Primary School	E	70 (65) [2]	67(66)	0 (1) [3]
DIH-14-1	Rhythm Garden Block 2	R	75	77	2
DIH-14-4	Canossa Primary School (San Po Kong)	E	70 (65) [2]	69 (68)	0(3) [3]
DIH-14-5	Rhythm Garden Block 1	R	75	78	3

Notes:

[1] R- Residential; E – Educational institution; W-Worship

[2] Values in parentheses indicate the noise criterion during examination period (typical examination period in May, June, November and December) of educational institution.

[3] Residual impact is only expected during the examination period (typical examination period in May, June, November and December) of the educational institution.

Construction Methodology

2.2 As mentioned in Section 1.3, the construction of SCL DIH is covered by SCL (HHS) EIA. The proposed construction methodology is generally following that presented in Section 3 of the approved SCL (HHS) EIA Report. The underground SCL DIH Station will employ either bored piles or D-walls and the underground structure will be constructed by in-situ concreting.

2.3 A breakdown of the major construction activities in sequence to be carried out within the contract are provided in **Appendix A**.

Updated Preliminary Construction Programme

2.4 The updated preliminary construction programme prepared by SLJV has been used in this CNMMP and has been presented on a monthly basis for the duration of the construction works in corresponding worksites. The construction schedule has been updated based on the latest information submitted under SCL(TAW-HUH) EP and adjusted such that to minimise concurrent construction works to be carried out in the vicinity as far as practicable. The updated preliminary construction programme for

SCL DIH is provided in **Appendix A**.

Updated Powered Mechanical Equipment List

2.5 The updated Powered Mechanical Equipment (PME) list for the construction works is provided in **Table 3.1**. The Sound Power Levels (SWL) for the PMEs have been adopted from EPD's Technical Memorandum on Noise from Construction Work Other than Percussive Piling (GW-TM), list of SWLs of other commonly used PME[(1)] or British Standard BS 5228–1:2009[(2)]. It should be noted that the PMEs proposed are commonly available in the Hong Kong market. The PMEs to be adopted for individual construction activities for SCL DIH are provided in **Appendix B**.

3 NOISE ASSESSMENT AND PROPOSED MITIGATION MEASURES

Assessment Methodology and Assumptions

3.1 The construction noise assessment has been carried out in accordance with the methodology used in the approved SCL (HHS) EIA Report (Register No. AEIAR-164/2012). Demarcation of the sub-works areas and notional source distances adopted in the calculations mainly follows those presented in the SCL(HHS) EIA Report with updates from the latest information submitted under SCL(TAW-HUH) EP, which are presented in **Appendix C**.

3.2 The percentage on-time for each PME has been estimated individually for each construction activity to ensure practicality.

3.3 The SLJV has confirmed that the programme and plant inventory are reasonable and practicable for completing the Works Contract 1106 within the scheduled timeframe.

3.4 Mitigation measures and their effectiveness proposed in the SCL (HHS) EIA Report including the use of temporary movable noise barrier, acoustic mat and quiet plant have been considered in this CNMMP, as shown in **Table 3.1**. Details of proposed mitigation measures for DIH are presented in **Appendix B**.

(1) "Sound power levels of other commonly used PME" prepared by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)
(2) British Standard BS 5228:2009, Part 1 - Noise and Vibration Control on Construction and Open Sites

Table 3.1 PME List with Proposed Mitigation Measures Adopted under Works Contract 1106

PME	TM Ref. /Other Ref.[3] /BS5228 Ref.[4]	SWL, dB(A)	Type of Noise Mitigation Measures	Noise Level Reduction, dB(A)
Air Compressor	CNP003	104	Barrier	-5
Asphalt Paver	CNP004	109	-	-
Bar Bender and Cutter	CNP021	90	-	-
Breaker (Pneumatic)	BS D2 10	110	Barrier	-5
Breaker, hand-held, mass > 10kg and < 20kg	CNP024	108	Barrier	-5
Bulldozer	BS C2 13	106	Barrier	-5
Concrete Lorry Mixer	BS D6 23	100	Barrier	-5
Concrete Pumping Lorry	CNP054	109	-	-
Crane Mobile	BS D7 114	101	Barrier	-5
Dump Truck	BS D3 60	110	Barrier	-5
Dump truck with grab	CNP069	105	Barrier	-5
Excavator/Loader, Wheeled/Tracked	BS D3 35	106	Barrier	-5
Grout Mixer	CNP105	90	Barrier	-5
Grout Pump	CNP106	105	Barrier	-5
Hand Held Breaker	CNP025	111	Barrier	-5
Lorry	BS D9 19	102	Barrier	-5
Lorry, crane /grab	CNP145	105	Barrier	-5
Lorry, with crane grab, gross wt. >38 tonnes	CNP144	112	Barrier	-5
Mini Backhoe	CNP082	94	Barrier	-5
Paint Line Marker	CNP161	90	-	-
Piling Rig and Drilling Rig	BS D4 44	109	Acoustic Mat	-10
Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP162	105	Barrier	-5
Piling, Diaphragm Wall, Hydraulic Extractor	CNP163	90	Barrier	-5
Piling, Large Dia. Bored, Oscillator	CNP165	115	Acoustic Mat	-10
Piling, Large Diameter Bored, Grab and Chisel	CNP164	115	Acoustic Mat	-10
Piling, large diameter bored, reverse circulation drill	CNP 166	100	Acoustic Mat	-10
Poker, Vibratory, Hand Held	BS D6 40	98	Barrier	-5
Roller	CNP185	108	Barrier	-5
Roller, Vibratory	CNP186	108	Barrier	-5
Saw, Chain, Hand-held	CNP202	114	-	-
Saw, Circular Wood	CNP201	108	-	-
Tower Crane	CNP049	95	-	-
Water Pump, Submersible (Electric)	CNP283	85	-	-
Welder/Generator, Portable	CNP107	100	Barrier	-5

[3] "Sound power levels of other commonly used PME" prepared by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)
[4] British Standard BS 5228:2009, Part 1 - Noise and Vibration Control on Construction and Open Sites

Proposed Mitigation Strategy and Noise Assessment Results

3.5 The air-borne construction noise impacts for the construction activities under Works Contract 1106 have been assessed and summarised in **Table 3.2**. The detailed assessment result for SCL DIH is presented in **Appendix B**. The proposed mitigation measures described above are included in the assessment and, as such, only the mitigated scenario has been presented.

3.6 With the implementation of quiet plant, temporary movable noise barrier and acoustic mat for the PMEs, and scheduling of PMEs at worksite as far as possible, no exceedances of noise criteria at all the identified NSRs are predicted. Residual impact is therefore not expected to be anticipated.

Table 3.2 Updated Mitigated Construction Noise Impact at Identified NSRs

NSR	Noise Criteria dB(A)(1)	SCL (TAW-HUH) EIA Prediction(2)		SCL (HHS) EIA Prediction(3)		CNMMP Prediction(4) (5)	
		Max Noise Level, dB(A)(6)	Exceedance Duration (Month)	Max Noise Level, dB(A)	Exceedance Duration (Month)	Max Noise Level, dB(A)(6)	Exceedance Duration (Month)
DIH-9-1	70 (65)	70 (70)	0 (2)	63	-	67 (65)	-
DIH-13-1	70 (65)	67 (66)	0 (2)	61	-	63 (62)	-
DIH-14-1	75	77	5	66	-	69	-
DIH-14-4	70 (65)	69 (68)	0 (3)	64	-	67 (65)	-
DIH-14-5	75	78	1	65	-	67	-

Notes:

(1) Values in parentheses indicate the noise criterion during examination period of educational institution

(2) Extracted from Table 8.15 of SCL (TAW-HUH) EIA – Residual Impacts at Noise Sensitive Receivers

(3) Extracted from Table 8.13 of SCL (HHS) EIA – Predicted Maximum Mitigated Construction Noise Levels at Noise Sensitive Receivers

(4) Cumulative impact arisen from other SCL(TAW-HUH) contracts near SCL DIH is considered.

(5) Cumulative impact arisen from Tsz Wan Shan Pedestrian Link is not anticipated given the separation distance of >300m between the works sites and NSRs.

(6) Values in parentheses indicates noise criterion during the examination period (typical examination period in May, June, November and December) of the educational institution. The examination periods of Shek On House [DIH-9-1], Canossa Primary School [DIH-13-1] and Canossa Primary School (San Po Kong) [DIH-14-4] are subject to schools' activity schedules when available.

4 CONCLUSION

4.1 With the implementation of the proposed noise mitigation measures, updated construction programme and PME list, construction noise impacts at all identified NSRs would comply with the noise criterion of 75 dB(A) for residential premises and 70/65 dB(A) for educational institutions during normal or examination period respectively.

4.2 Where necessary, further review and update will be performed during the construction phase and liaison with affected parties is recommended to minimise the construction noise impacts as far as practicable.

APPENDIX A –
Updated Preliminary Construction Programme of Works Contract 1106

Appendix A :SCL Contract 1106 - Preliminary Construction Programme (Rev. 5)

No.	Activity Description	2012		2013												2014												2015												2016												2017											
		11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
	Daytime Period																																																															
	Shatin to Central Link - Diamond Hill Station, Entrances & Adits																																																															
	Worksite S1																																																															
1	Landscape & Finish																																										X	X	X	X	X																	
2	Entrance (A2) Construction buld head wall, Temp acces,opening & Staircase									X	X	X																																																				
4	Partial demolish Entrance (A2)												X	X	X																																																	
5	Entrance (A2) - Install ELS														X	X	X	X																																														
6	Entrance (A2) - Install Pipe Pile Wall														X	X	X																																														
7	Entrance (A2) - Install ELS near Adit D1														X	X	X																																														
8	Entrance (A2) - Demolish Subway																	X	X																																												
9	Entrance (A2) - Install ELS & Struts																		X	X																																											
10	Install ELS & Struts (West End)																			X	X	X																																								
11	Install Pipe Pile Wall (West End)																			X	X	X																																								
12	Install ELS near Adit D1																				X	X	X																																							
14	Entrance (A2) - Construct Bulk Head Wall, partial floor, slab and staircase																									X	X																																				
15	Entrance (A2) - Install ELS & Struts																										X	X																																			
16	Entrance (A2) - Demolish Subway & Install Struts																											X	X																																	
17	Entrance (A2) - Excavation																														X	X																													
18	Entrance (A2) - Structures																														X	X																													
19	DIH Structures - Base & Conc Slab, Mezz Slab, Columns, Access Slab, Roof Slab																																	X	X	X	X	X	X	X	X	X	X	X	X	X															
20	Internal Structures - ALL levels																																														X	X	X	X	X										
21	DIH - Ground Level Structures																																														X	X	X	X	X										
22	DIH Tx Rooms Structures																																																			X	X								
	Worksite S2																																																														
23	Landscape & Finish																																										X	X	X	X	X																
25	DIH Structures - Base & Conc Slab, Mezz Slab, Columns, Access Slab, Roof Slab																														X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X														
26	Internal Structures - ALL levels																																			X	X	X	X	X	X	X	X	X	X	X	X														
	Worksite S3																																																														
27	Site Clearance		X	X	X																																																									
28	Hoardings		X	X	X																																																									
29	Utility Diversions		X	X	X																																																								
31	Landscape & Finish																																									X	X	X	X	X	X																
32	ALL D Wall					X	X	X	X	X	X	X	X	X																																																
33	Excavation (From GL to -20.8m)																	X	X	X	X	X	X	X	X																																					
34	DIH Structures - Base & Conc Slab, Mezz Slab, Columns, Roof Slab																								X	X	X	X	X	X	X	X	X	X	X																											
35	Internal Structures - ALL levels																													X	X	X	X	X	X	X	X	X	X	X																						
101	Tree Transplanting - DT1911																		X																																											
	Worksite S4																																																														
27	Site Clearance		X	X	X																																																									
28	Hoardings		X	X	X																																																									
29	Utility Diversions		X	X	X																																																									
31	Landscape & Finish																																									X	X	X	X	X	X																
36	Dwall					X	X	X	X	X	X	X	X	X	X																																																
37	Tree Transplanting (CAT D) - DT1885										X																																																					
38	Excavation to -1.2														X	X																																															
39	Excavation to -20.8																X	X	X	X	X	X																																									
40	DIH - Structure																					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X																												
	Worksite S5																																																														
27	Site Clearance		X	X	X																																																									
28	Hoardings		X	X	X																																																									
29	Utility Diversions		X	X	X																																																									
31	Landscape & Finish																																									X	X	X	X	X	X																
41	Dwall									X	X	X																																																			
42	Dwall												X	X																																																	
44	Dwall													X	X																																																
45	Excavation to -20.8														X	X	X	X	X	X																																											
46	DIH - Structure																				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X																							
	Worksite S6																																																														
47	Watermain Diversion (LCR)																X	X	X																																											
48	Gas Main Diversion (LCR)																X	X	X																																											
49	LCR Diversion Embankment Fill																				X	X	X																																							
50	LCR E/B Widening																									X	X	X																																		
51	LCR E/B Diversion Traffic																												X																																	
52	LCR E/B Reinstatement																																						X	X	X																				
53	LCR E/B to Original Traffic																																								X																				

Appendix A :SCL Contract 1106 - Preliminary Construction Programme (Rev. 5)

No.	Activity Description	2012		2013												2014												2015												2016												2017											
		11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
	Worksite S7																																																															
54	Watermain Diversion (LCR)																X	X	X																																													
55	Gas Main Diversion (LCR)																X	X	X																																													
56	LCR Diversion Embankment Fill																				X	X	X																																								
57	LCR W/B Diversion Construction																							X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X																										
58	LCR W/B Deck Construction																										X	X	X																																			
59	LCR W/B Diversion Traffic																													X																																	
60	LCR W/B Reinstatement																																						X	X	X																						
61	LCR W/B to Original Traffic																																								X																					
	Worksite S8																																																													
62	Interchange Adit - Construct Barettes											X	X	X	X																																																
63	Interchange Adit - ELS (Part 1)															X	X	X																																												
64	Interchange Adit - Excavation (Part 1)																		X	X	X																																								
65	Interchange Adit - Structure (Part 1)																					X	X	X																																					
66	Interchange Adit - ELS (Part 2)																														X	X	X																													
67	Interchange Adit - Excavation (Part 2)																																	X	X	X																									
68	Interchange Adit - Structure (Part 2)																																				X	X	X																						
69	Interchange Adit - ELS (Part 3)																																								X	X	X																	
70	Interchange Adit - Excavation (Part 3)																																											X	X	X														
71	Interchange Adit - Structure (Part 3)																																														X	X	X										
72	Interchange Adit - Backfill																																																	X									
73	Adit D1 - ELS																														X	X	X																											
74	Adit D1 - Excavation																																	X	X	X																							
75	Adit D1 - Structure																																				X	X	X																				
76	Adit D1 - ELS (Part 2)																																								X	X	X																
77	Adit D1 - Excavation (Part 2)																																											X	X	X													
78	Adit D1 - Structure (Part 2)																																														X	X	X								
79	Adit D1 - Backfill																																																	X								
80	MOE (near B1) - ELS																																												X	X											
81	MOE (near B1) - Excavation																																													X	X									
82	MOE (near B1) - Structure																																														X	X	X							
83	Construction of Retrieval shaft at DIH Interchange/Adit																									X			X			X																													
	Worksite S9																																																												
84	Mobilisation																				X	X																																							
85	A1 Lift - Site Clearance and Hoarding Erection																												X	X	X																													
86	A1 Lift - Pre-drilling and Pre-bored H Piles (6nos)																															X	X																										
87	A1 Lift - Grouting Works																																X	X	X																							
88	A1 Lift - Sheet Piling works																																			X	X																					
89	A1 Lift - Excavation & ELS																																				X	X																				
90	A1 Lift - Wall strenghtening Work																																					X	X																		
91	A1 Lift - Construct Lift Shaft, wall & slab																																							X	X	X															
	Worksite S11																																																												
92	Mobilisation						X	X																																																					
93	Site Clearance							X	X																																																			
96	Operation of Steel Bending Facilites									X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
97	Bored Piling Works **[1]**									X	X	X	X	X	X	X	X	X	X	X	X	X																																							
	Worksite S12																																																												
94	Utilities Diversion																																																					X	X	X	X	X	X				
	Worksite S13																																																												
95	A1 Lift - TTMs Temporary Traffic Diversion																		X	X	X																																							
	Worksite S15																																																												
98	Site Operation					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
	Worksite S16																																																												
99	Initial Site Set Up			X	X																																																								
100	Site Reinstatement																																																				X	X	X	X	X					

Remark:

X - indicates construction works in progress

[1] - Bored Piling Works on Worksite S11 (Activity No. 97) is entrusted by Planning Department

APPENDIX B –
Proposed Mitigation Measures and Detailed Noise Assessment

Appendix B1 : SCL Contract 1106 - Diamond Hill Station
Construction Plant Inventory (With Mitigation)

Area: Worksite S1

No.	Activities	Name of PME (TM Ref./Other Ref.[1])	No. of PME	On Time %	Unit SWL, dB(A)	SWL, dB(A)	Type of Noise Control[3]	Noise Reduction	Total SWL, dB(A) [2]
1	Landscape & Finish	Bar Bender and Cutter (CNP021)	1	20	90	83			**98**
		Poker, Vibratory, Hand Held (BS D6 40)	1	20	98	91	Barrier	-5	
		Crane Mobile (BS D7 114)	1	30	101	96	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	30	100	95	Barrier	-5	
		Lorry (BS D9 19)	1	80	102	101	Barrier	-5	
2	Entrance (A2) Construction buld head wall, Temp access, opening &	Bar Bender and Cutter (CNP021)	1	50	90	87			**104**
		Saw, Circular Wood (CNP201)	1	30	108	103			
		Poker, Vibratory, Hand Held (BS D6 40)	2	20	98	94	Barrier	-5	
		Crane Mobile (BS D7 114)	1	30	101	96	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	30	100	95	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	2	100	85	88			
		Welder/generator, portable (CNP107)	1	100	100	100	Barrier	-5	
		Tower Crane (CNP049)	1	60	95	93			
4	Partial demolish Entrance (A2)	Breaker (Pneumatic) (BS D2 10)	1	100	110	110	Barrier	-5	**112**
		Hand Held Breaker (CNP025)	1	100	111	111	Barrier	-5	
		Dump truck (BS D3 60)	2	40	110	109	Barrier	-5	
		Saw, Chain, Hand-held (CNP202)	1	30	114	109			
5	Entrance (A2) - Install ELS	Crane Mobile (BS D7 114)	1	80	101	100	Barrier	-5	**101**
		Lorry (BS D9 19)	1	50	102	99	Barrier	-5	
		Piling Rig and Drilling Rig (BS D4 44)	1	100	109	109	Acoustic Mat	-10	
6	Entrance (A2) - Install Pipe Pile Wall	Piling Rig and Drilling Rig (BS D4 44)	1	100	109	109	Acoustic Mat	-10	**101**
		Lorry (BS D9 19)	1	20	102	95	Barrier	-5	
		Crane Mobile (BS D7 114)	1	80	101	100	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	20	100	93	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	1	90	85	85			
7	Entrance (A2) - Install ELS near Adit D1	Crane Mobile (BS D7 114)	1	80	101	100	Barrier	-5	**101**
		Lorry (BS D9 19)	1	50	102	99	Barrier	-5	
		Piling Rig and Drilling Rig (BS D4 44)	1	100	109	109	Acoustic Mat	-10	
8	Entrance (A2) - Demolish Subway	Breaker (Pneumatic) (BS D2 10)	1	100	110	110	Barrier	-5	**111**
		Hand Held Breaker (CNP025)	1	30	111	106	Barrier	-5	
		Dump truck (BS D3 60)	2	50	110	110	Barrier	-5	
		Saw, Chain, Hand-held (CNP202)	1	20	114	107			
9	Entrance (A2) - Install ELS & Struts	Crane Mobile (BS D7 114)	1	80	101	100	Barrier	-5	**101**
		Lorry (BS D9 19)	1	50	102	99	Barrier	-5	
		Piling Rig and Drilling Rig (BS D4 44)	1	100	109	109	Acoustic Mat	-10	

Note:
[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/)

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(HHS) EIA Report (Register No. AEIAR-164/2012)
Enclosure for movable plant : -5dB(A)
Enclosure for relatively static plant : -10dB(A)
Barrier for movable plant : -5 dB(A)
Barrier for relatively static plant : -10dB(A)
Acoustic mat : -10dB(A)

Appendix B1 : SCL Contract 1106 - Diamond Hill Station
Construction Plant Inventory (With Mitigation)

Area: Worksite S1

No.	Activities	Name of PME (TM Ref./Other Ref.[1])	No. of PME	On Time %	Unit SWL, dB(A)	SWL, dB(A)	Type of Noise Control[3]	Noise Reduction	Total SWL, dB(A) [2]
10	Install ELS & Struts (West End)	Crane Mobile (BS D7 114)	1	80	101	100	Barrier	-5	**101**
		Lorry (BS D9 19)	1	50	102	99	Barrier	-5	
		Piling Rig and Drilling Rig (BS D4 44)	1	100	109	109	Acoustic Mat	-10	
11	Install Pipe Pile Wall (West End)	Piling Rig and Drilling Rig (BS D4 44)	1	100	109	109	Acoustic Mat	-10	**101**
		Lorry (BS D9 19)	1	20	102	95	Barrier	-5	
		Crane Mobile (BS D7 114)	1	80	101	100	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	20	100	93	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	1	90	85	85			
12	Install ELS near Adit D1	Crane Mobile (BS D7 114)	1	80	101	100	Barrier	-5	**101**
		Lorry (BS D9 19)	1	50	102	99	Barrier	-5	
		Piling Rig and Drilling Rig (BS D4 44)	1	100	109	109	Acoustic Mat	-10	
14	Entrance (A2) - Construct Bulk Head Wall, partial floor, slab and staircase	Bar Bender and Cutter (CNP021)	1	50	90	87			**104**
		Saw, Circular Wood (CNP201)	1	30	108	103			
		Poker, Vibratory, Hand Held (BS D6 40)	2	20	98	94	Barrier	-5	
		Crane Mobile (BS D7 114)	1	30	101	96	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	30	100	95	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	2	100	85	88			
		Welder/generator, portable (CNP107)	1	100	100	100	Barrier	-5	
		Tower Crane (CNP049)	1	60	95	93			
15	Entrance (A2) - Install ELS & Struts	Crane Mobile (BS D7 114)	1	80	101	100	Barrier	-5	**101**
		Lorry (BS D9 19)	1	50	102	99	Barrier	-5	
		Piling Rig and Drilling Rig (BS D4 44)	1	100	109	109	Acoustic Mat	-10	
16	Entrance (A2) - Demolish Subway & Install Struts	Breaker (Pneumatic) (BS D2 10)	1	100	110	110	Barrier	-5	**112**
		Hand Held Breaker (CNP025)	1	30	111	106	Barrier	-5	
		Dump truck (BS D3 60)	2	50	110	110	Barrier	-5	
		Saw, Chain, Hand-held (CNP202)	1	30	114	109			
17	Entrance (A2) - Excavation	Excavator/Loader, Wheeled/Tracked (BS D3 35)	1	80	106	105	Barrier	-5	**105**
		Dump truck (BS D3 60)	1	50	110	107	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	1	100	85	85			
		Welder/generator, portable (CNP107)	1	100	100	100	Barrier	-5	
18	Entrance (A2) - Structures	Bar Bender and Cutter (CNP021)	1	50	90	87			**104**
		Saw, Circular Wood (CNP201)	1	30	108	103			
		Poker, Vibratory, Hand Held (BS D6 40)	2	20	98	94	Barrier	-5	
		Crane Mobile (BS D7 114)	1	30	101	96	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	30	100	95	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	2	100	85	88			
		Welder/generator, portable (CNP107)	1	100	100	100	Barrier	-5	
		Tower Crane (CNP049)	1	60	95	93			

Note:
[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/)

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(HHS) EIA Report (Register No. AEIAR-164/2012)
Enclosure for movable plant : -5dB(A)
Enclosure for relatively static plant : -10dB(A)
Barrier for movable plant : -5 dB(A)
Barrier for relatively static plant : -10dB(A)
Acoustic mat : -10dB(A)

Appendix B1 : SCL Contract 1106 - Diamond Hill Station
Construction Plant Inventory (With Mitigation)

Area: Worksite S1

No.	Activities	Name of PME (TM Ref./Other Ref.[1])	No. of PME	On Time %	Unit SWL, dB(A)	SWL, dB(A)	Type of Noise Control[3]	Noise Reduction	Total SWL, dB(A) [2]
19	DIH Structures - Base & Conc Slab, Mezz Slab, Columns,Access Slab, Roof	Bar Bender and Cutter (CNP021)	1	50	90	87			**104**
		Saw, Circular Wood (CNP201)	1	30	108	103			
		Poker, Vibratory, Hand Held (BS D6 40)	2	20	98	94	Barrier	-5	
		Crane Mobile (BS D7 114)	1	30	101	96	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	30	100	95	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	2	100	85	88			
		Welder/generator, portable (CNP107)	1	100	100	100	Barrier	-5	
		Tower Crane (CNP049)	1	60	95	93			
20	Internal Structures - ALL levels	Bar Bender and Cutter (CNP021)	1	50	90	87			**104**
		Saw, Circular Wood (CNP201)	1	30	108	103			
		Poker, Vibratory, Hand Held (BS D6 40)	2	20	98	94	Barrier	-5	
		Crane Mobile (BS D7 114)	1	30	101	96	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	30	100	95	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	2	100	85	88			
		Welder/generator, portable (CNP107)	1	100	100	100	Barrier	-5	
		Tower Crane (CNP049)	1	60	95	93			
21	DIH - Ground Level Structures	Bar Bender and Cutter (CNP021)	1	50	90	87			**105**
		Saw, Circular Wood (CNP201)	1	30	108	103			
		Poker, Vibratory, Hand Held (BS D6 40)	2	20	98	94	Barrier	-5	
		Crane Mobile (BS D7 114)	1	30	101	96	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	30	100	95	Barrier	-5	
		Excavator/Loader, Wheeled/Tracked (BS D3 35)	1	80	106	105	Barrier	-5	
22	DIH Tx Rooms Structures	Bar Bender and Cutter (CNP021)	1	50	90	87			**105**
		Saw, Circular Wood (CNP201)	1	30	108	103			
		Poker, Vibratory, Hand Held (BS D6 40)	2	20	98	94	Barrier	-5	
		Crane Mobile (BS D7 114)	1	30	101	96	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	30	100	95	Barrier	-5	
		Excavator/Loader, Wheeled/Tracked (BS D3 35)	1	80	106	105	Barrier	-5	

Note:
[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/)

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(HHS) EIA Report (Register No. AEIAR-164/2012)
Enclosure for movable plant : -5dB(A)
Enclosure for relatively static plant : -10dB(A)
Barrier for movable plant : -5 dB(A)
Barrier for relatively static plant : -10dB(A)
Acoustic mat : -10dB(A)

Appendix B1 : SCL Contract 1106 - Diamond Hill Station
Construction Plant Inventory (With Mitigation)

Area: Worksite S2

No.	Activities	Name of PME (TM Ref./Other Ref.[1])	No. of PME	On Time %	Unit SWL, dB(A)	SWL, dB(A)	Type of Noise Control[3]	Noise Reduction	Total SWL, dB(A) [2]
23	Landscape & Finish	Bar Bender and Cutter (CNP021)	1	20	90	83			**98**
		Poker, Vibratory, Hand Held (BS D6 40)	1	20	98	91	Barrier	-5	
		Crane Mobile (BS D7 114)	1	30	101	96	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	30	100	95	Barrier	-5	
		Lorry (BS D9 19)	1	80	102	101	Barrier	-5	
25	DIH Structures - Base & Conc Slab, Mezz Slab, Columns, Access Slab, Roof Slab	Bar Bender and Cutter (CNP021)	1	50	90	87			**104**
		Saw, Circular Wood (CNP201)	1	30	108	103			
		Poker, Vibratory, Hand Held (BS D6 40)	2	20	98	94	Barrier	-5	
		Crane Mobile (BS D7 114)	1	30	101	96	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	30	100	95	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	2	100	85	88			
		Welder/generator, portable (CNP107)	1	100	100	100	Barrier	-5	
		Tower Crane (CNP049)	1	60	95	93			
26	Internal Structures - ALL levels	Bar Bender and Cutter (CNP021)	1	50	90	87			**104**
		Saw, Circular Wood (CNP201)	1	30	108	103			
		Poker, Vibratory, Hand Held (BS D6 40)	2	20	98	94	Barrier	-5	
		Crane Mobile (BS D7 114)	1	30	101	96	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	30	100	95	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	2	100	85	88			
		Welder/generator, portable (CNP107)	1	100	100	100	Barrier	-5	
		Tower Crane (CNP049)	1	60	95	93			

Note:
[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/)

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(HHS) EIA Report (Register No. AEIAR-164/2012)
Enclosure for movable plant : -5dB(A)
Enclosure for relatively static plant : -10dB(A)
Barrier for movable plant : -5 dB(A)
Barrier for relatively static plant : -10dB(A)
Acoustic mat : -10dB(A)

Appendix B1 : SCL Contract 1106 - Diamond Hill Station
Construction Plant Inventory (With Mitigation)

Area: Worksite S3 -S5

No.	Activities	Name of PME (TM Ref./Other Ref.[1])	No. of PME	On Time %	Unit SWL, dB(A)	SWL, dB(A)	Type of Noise Control[3]	Noise Reduction	Total SWL, dB(A) [2]
27	Site Clearance	Breaker (Pneumatic) (BS D2 10)	1	20	110	103	Barrier	-5	**106**
		Dump truck (BS D3 60)	2	30	110	108	Barrier	-5	
		Poker, Vibratory, Hand Held (BS D6 40)	2	30	98	96	Barrier	-5	
		Excavator/Loader, Wheeled/Tracked (BS D3 35)	1	80	106	105	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	20	100	93	Barrier	-5	
		Lorry (BS D9 19)	1	50	102	99	Barrier	-5	
28	Hoardings	Lorry (BS D9 19)	1	70	102	100	Barrier	-5	**101**
		Bar Bender and Cutter (CNP021)	1	50	90	87			
		Breaker, hand-held, mass > 10kg and < 20kg (CNP024)	1	20	108	101	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	80	100	99	Barrier	-5	
		Poker, Vibratory, Hand Held (BS D6 40)	2	30	98	96	Barrier	-5	
29	Utility Diversions	Excavator/Loader, Wheeled/Tracked (BS D3 35)	1	100	106	106	Barrier	-5	**108**
		Lorry (BS D9 19)	1	20	102	95	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	20	100	93	Barrier	-5	
		Bar Bender and Cutter (CNP021)	1	50	90	87			
		Poker, Vibratory, Hand Held (BS D6 40)	1	20	98	91	Barrier	-5	
		Saw, Chain, Hand-held (CNP202)	1	50	114	111	Barrier	-5	
		Hand Held Breaker (CNP023)	1	30	108	103	Barrier	-5	
31	Landscape & Finish	Bar Bender and Cutter (CNP021)	1	20	90	83			**98**
		Poker, Vibratory, Hand Held (BS D6 40)	1	20	98	91	Barrier	-5	
		Crane Mobile (BS D7 114)	1	30	101	96	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	30	100	95	Barrier	-5	
		Lorry (BS D9 19)	1	80	102	101	Barrier	-5	

Note:
[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/)

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(HHS) EIA Report (Register No. AEIAR-164/2012)
Enclosure for movable plant : -5dB(A)
Enclosure for relatively static plant : -10dB(A)
Barrier for movable plant : -5 dB(A)
Barrier for relatively static plant : -10dB(A)
Acoustic mat : -10dB(A)

Appendix B1 : SCL Contract 1106 - Diamond Hill Station
Construction Plant Inventory (With Mitigation)

Area: Worksite S3

No.	Activities	Name of PME (TM Ref./Other Ref.[1])	No. of PME	On Time %	Unit SWL, dB(A)	SWL, dB(A)	Type of Noise Control[3]	Noise Reduction	Total SWL, dB(A) [2]
32	ALL D Wall	Piling, Diaphragm Wall, Hydraulic Extractor (CNP163)	2	80	90	92	Barrier	-5	**104**
		Piling, Diaphragm Wall, Bentonite Filtering Plant (CNP162)	2	80	105	107	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	2	20	100	96	Barrier	-5	
		Crane Mobile (BS D7 114)	2	60	101	102	Barrier	-5	
		Bar Bender and Cutter (CNP021)	2	50	90	90			
		Water Pump, Submersible (Electric) (CNP283)	2	90	85	88			
33	Excavation (From GL to -20.8m)	Excavator/Loader, Wheeled/Tracked (BS D3 35)	2	80	106	108	Barrier	-5	**108**
		Dump truck (BS D3 60)	2	50	110	110	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	2	100	85	88			
		Welder/generator, portable (CNP107)	2	100	100	103	Barrier	-5	
34	DIH Structures - Base & Conc Slab, Mezz Slab, Columns, Roof Slab	Bar Bender and Cutter (CNP021)	1	50	90	87			**106**
		Saw, Circular Wood (CNP201)	1	50	108	105			
		Poker, Vibratory, Hand Held (BS D6 40)	2	20	98	94	Barrier	-5	
		Crane Mobile (BS D7 114)	1	30	101	96	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	30	100	95	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	2	100	85	88			
		Welder/generator, portable (CNP107)	1	100	100	100	Barrier	-5	
		Tower Crane (CNP049)	1	60	95	93			
35	Internal Structures - ALL levels	Bar Bender and Cutter (CNP021)	1	50	90	87			**106**
		Saw, Circular Wood (CNP201)	1	50	108	105			
		Poker, Vibratory, Hand Held (BS D6 40)	2	20	98	94	Barrier	-5	
		Crane Mobile (BS D7 114)	1	30	101	96	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	30	100	95	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	2	100	85	88			
		Welder/generator, portable (CNP107)	1	100	100	100	Barrier	-5	
		Tower Crane (CNP049)	1	60	95	93			
101	Tree Transplanting - DT1911	Saw, Chain, Hand-held (CNP202)	1	50	114	111			**111**
		Lorry (BS D9 19)	1	20	102	95	Barrier	-5	
		Crane Mobile (BS D7 114)	1	80	101	100	Barrier	-5	
		Excavator/Loader, Wheeled/Tracked (BS D3 35)	1	80	106	105	Barrier	-5	

Note:
[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/)

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(HHS) EIA Report (Register No. AEIAR-164/2012)
Enclosure for movable plant : -5dB(A)
Enclosure for relatively static plant : -10dB(A)
Barrier for movable plant : -5 dB(A)
Barrier for relatively static plant : -10dB(A)
Acoustic mat : -10dB(A)

Appendix B1 : SCL Contract 1106 - Diamond Hill Station
Construction Plant Inventory (With Mitigation)

Area: Worksite S4

No.	Activities	Name of PME (TM Ref./Other Ref.[1])	No. of PME	On Time %	Unit SWL, dB(A)	SWL, dB(A)	Type of Noise Control[3]	Noise Reduction	Total SWL, dB(A) [2]
36	Dwall	Piling, Diaphragm Wall, Hydraulic Extractor (CNP163)	2	80	90	92	Barrier	-5	**104**
		Piling, Diaphragm Wall, Bentonite Filtering Plant (CNP162)	2	80	105	107	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	2	20	100	96	Barrier	-5	
		Crane Mobile (BS D7 114)	2	60	101	102	Barrier	-5	
		Bar Bender and Cutter (CNP021)	2	50	90	90			
		Water Pump, Submersible (Electric) (CNP283)	2	90	85	88			
37	Tree Transplanting (CAT D) - DT1885	Saw, Chain, Hand-held (CNP202)	1	50	114	111			**111**
		Lorry (BS D9 19)	1	20	102	95	Barrier	-5	
		Crane Mobile (BS D7 114)	1	80	101	100	Barrier	-5	
		Excavator/Loader, Wheeled/Tracked (BS D3 35)	1	80	106	105	Barrier	-5	
38	Excavation to -1.2	Excavator/Loader, Wheeled/Tracked (BS D3 35)	2	80	106	108	Barrier	-5	**108**
		Dump truck (BS D3 60)	2	50	110	110	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	2	100	85	88			
		Welder/generator, portable (CNP107)	2	100	100	103	Barrier	-5	
39	Excavation to -20.8	Excavator/Loader, Wheeled/Tracked (BS D3 35)	1	80	106	105	Barrier	-5	**105**
		Dump truck (BS D3 60)	1	50	110	107	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	1	100	85	85			
		Welder/generator, portable (CNP107)	1	100	100	100	Barrier	-5	
40	DIH - Structure	Bar Bender and Cutter (CNP021)	1	50	90	87			**107**
		Saw, Circular Wood (CNP201)	1	50	108	105			
		Poker, Vibratory, Hand Held (BS D6 40)	2	20	98	94	Barrier	-5	
		Crane Mobile (BS D7 114)	1	100	101	101	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	30	100	95	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	2	100	85	88			
		Welder/generator, portable (CNP107)	1	100	100	100	Barrier	-5	
		Tower Crane (CNP049)	2	60	95	96			

Note:
[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/)

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(HHS) EIA Report (Register No. AEIAR-164/2012)
Enclosure for movable plant : -5dB(A)
Enclosure for relatively static plant : -10dB(A)
Barrier for movable plant : -5 dB(A)
Barrier for relatively static plant : -10dB(A)
Acoustic mat : -10dB(A)

Appendix B1 : SCL Contract 1106 - Diamond Hill Station
Construction Plant Inventory (With Mitigation)

Area: Worksite S5

No.	Activities	Name of PME (TM Ref./Other Ref.[1])	No. of PME	On Time %	Unit SWL, dB(A)	SWL, dB(A)	Type of Noise Control[3]	Noise Reduction	Total SWL, dB(A) [2]
41	Dwall	Piling, Diaphragm Wall, Hydraulic Extractor (CNP163)	2	80	90	92	Barrier	-5	**104**
		Piling, Diaphragm Wall, Bentonite Filtering Plant (CNP162)	2	80	105	107	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	2	20	100	96	Barrier	-5	
		Crane Mobile (BS D7 114)	2	60	101	102	Barrier	-5	
		Bar Bender and Cutter (CNP021)	2	50	90	90			
		Water Pump, Submersible (Electric) (CNP283)	2	90	85	88			
42	Dwall	Piling, Diaphragm Wall, Hydraulic Extractor (CNP163)	3	80	90	94	Barrier	-5	**106**
		Piling, Diaphragm Wall, Bentonite Filtering Plant (CNP162)	3	80	105	109	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	3	20	100	98	Barrier	-5	
		Crane Mobile (BS D7 114)	3	60	101	104	Barrier	-5	
		Bar Bender and Cutter (CNP021)	3	50	90	92			
		Water Pump, Submersible (Electric) (CNP283)	3	90	85	89			

Note:
[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/)

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(HHS) EIA Report (Register No. AEIAR-164/2012)
Enclosure for movable plant : -5dB(A)
Enclosure for relatively static plant : -10dB(A)
Barrier for movable plant : -5 dB(A)
Barrier for relatively static plant : -10dB(A)
Acoustic mat : -10dB(A)

Appendix B1 : SCL Contract 1106 - Diamond Hill Station
Construction Plant Inventory (With Mitigation)

Area: Worksite S5

No.	Activities	Name of PME (TM Ref./Other Ref.[1])	No. of PME	On Time %	Unit SWL, dB(A)	SWL, dB(A)	Type of Noise Control[3]	Noise Reduction	Total SWL, dB(A) [2]
44	Dwall	Piling, Diaphragm Wall, Hydraulic Extractor (CNP163)	2	80	90	92	Barrier	-5	**104**
		Piling, Diaphragm Wall, Bentonite Filtering Plant (CNP162)	2	80	105	107	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	2	20	100	96	Barrier	-5	
		Crane Mobile (BS D7 114)	2	60	101	102	Barrier	-5	
		Bar Bender and Cutter (CNP021)	2	50	90	90			
		Water Pump, Submersible (Electric) (CNP283)	2	90	85	88			
45	Excavation to -20.8	Excavator/Loader, Wheeled/Tracked (BS D3 35)	2	80	106	108	Barrier	-5	**108**
		Dump truck (BS D3 60)	2	50	110	110	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	2	100	85	88			
		Welder/generator, portable (CNP107)	2	100	100	103	Barrier	-5	
46	DIH - Structure	Bar Bender and Cutter (CNP021)	1	50	90	87			**106**
		Saw, Circular Wood (CNP201)	1	50	108	105			
		Poker, Vibratory, Hand Held (BS D6 40)	2	20	98	94	Barrier	-5	
		Crane Mobile (BS D7 114)	1	100	101	101	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	30	100	95	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	2	100	85	88			
		Welder/generator, portable (CNP107)	1	100	100	100	Barrier	-5	
		Tower Crane (CNP049)	1	60	95	93			

Note:
[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/)

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(HHS) EIA Report (Register No. AEIAR-164/2012)
Enclosure for movable plant : -5dB(A)
Enclosure for relatively static plant : -10dB(A)
Barrier for movable plant : -5 dB(A)
Barrier for relatively static plant : -10dB(A)
Acoustic mat : -10dB(A)

Appendix B1 : SCL Contract 1106 - Diamond Hill Station
Construction Plant Inventory (With Mitigation)

Area: Worksite S6 (Lung Cheung Road - EB)

No.	Activities	Name of PME (TM Ref./Other Ref.[1])	No. of PME	On Time %	Unit SWL, dB(A)	SWL, dB(A)	Type of Noise Control[3]	Noise Reduction	Total SWL, dB(A) [2]
47	Watermain Diversion (LCR)	Excavator/Loader, Wheeled/Tracked (BS D3 35)	1	100	106	106	Barrier	-5	**112**
		Lorry (BS D9 19)	1	20	102	95	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	20	100	93	Barrier	-5	
		Bar Bender and Cutter (CNP021)	1	50	90	87			
		Poker, Vibratory, Hand Held (BS D6 40)	1	20	98	91	Barrier	-5	
		Saw, Chain, Hand-held (CNP202)	1	50	114	111			
		Hand Held Breaker (CNP025)	1	30	111	106	Barrier	-5	
48	Gas Main Diversion (LCR)	Excavator/Loader, Wheeled/Tracked (BS D3 35)	1	100	106	106	Barrier	-5	**112**
		Lorry (BS D9 19)	1	20	102	95	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	20	100	93	Barrier	-5	
		Bar Bender and Cutter (CNP021)	1	50	90	87			
		Poker, Vibratory, Hand Held (BS D6 40)	1	20	98	91	Barrier	-5	
		Saw, Chain, Hand-held (CNP202)	1	50	114	111			
		Hand Held Breaker (CNP025)	1	30	111	106	Barrier	-5	
49	LCR Diversion Embankment Fill	Lorry (BS D9 19)	1	50	102	99	Barrier	-5	**111**
		Breaker (Pneumatic) (BS D2 10)	1	50	110	107	Barrier	-5	
		Roller (CNP185)	1	20	108	101	Barrier	-5	
		Dump truck (BS D3 60)	1	20	110	103	Barrier	-5	
		Crane Mobile (BS D7 114)	1	100	101	101	Barrier	-5	
		Bulldozer (BS C2 13)	1	100	106	106	Barrier	-5	
		Asphalt Paver (CNP004)	1	80	109	108			
		Roller, Vibratory (CNP186)	1	100	108	108	Barrier	-5	

Note:
[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/)

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(HHS) EIA Report (Register No. AEIAR-164/2012)
Enclosure for movable plant : -5dB(A)
Enclosure for relatively static plant : -10dB(A)
Barrier for movable plant : -5 dB(A)
Barrier for relatively static plant : -10dB(A)
Acoustic mat : -10dB(A)

Appendix B1 : SCL Contract 1106 - Diamond Hill Station
Construction Plant Inventory (With Mitigation)

Area: Worksite S6 (Lung Cheung Road - EB)

No.	Activities	Name of PME (TM Ref./Other Ref.[1])	No. of PME	On Time %	Unit SWL, dB(A)	SWL, dB(A)	Type of Noise Control[3]	Noise Reduction	Total SWL, dB(A) [2]
50	LCR E/B Widening	Lorry (BS D9 19)	1	50	102	99	Barrier	-5	**111**
		Breaker (Pneumatic) (BS D2 10)	1	50	110	107	Barrier	-5	
		Roller (CNP185)	1	20	108	101	Barrier	-5	
		Dump truck (BS D3 60)	1	20	110	103	Barrier	-5	
		Crane Mobile (BS D7 114)	1	100	101	101	Barrier	-5	
		Bulldozer (BS C2 13)	1	100	106	106	Barrier	-5	
		Asphalt Paver (CNP004)	1	80	109	108			
		Roller, Vibratory (CNP186)	1	100	108	108	Barrier	-5	
51	LCR E/B Diversion Traffic	Lorry (BS D9 19)	1	50	102	99	Barrier	-5	**111**
		Breaker (Pneumatic) (BS D2 10)	1	50	110	107	Barrier	-5	
		Roller (CNP185)	1	20	108	101	Barrier	-5	
		Dump truck (BS D3 60)	1	20	110	103	Barrier	-5	
		Crane Mobile (BS D7 114)	1	100	101	101	Barrier	-5	
		Bulldozer (BS C2 13)	1	100	106	106	Barrier	-5	
		Asphalt Paver (CNP004)	1	80	109	108			
		Roller, Vibratory (CNP186)	1	100	108	108	Barrier	-5	
52	LCR E/B Reinstatement	Lorry (BS D9 19)	1	50	102	99	Barrier	-5	**106**
		Breaker (Pneumatic) (BS D2 10)	1	40	110	106	Barrier	-5	
		Roller (CNP185)	1	20	108	101	Barrier	-5	
		Dump truck (BS D3 60)	1	20	110	103	Barrier	-5	
		Crane Mobile (BS D7 114)	1	70	101	99	Barrier	-5	
		Bulldozer (BS C2 13)	1	30	106	101	Barrier	-5	
		Asphalt Paver (CNP004)	1	20	109	102	Barrier	-5	
		Roller, Vibratory (CNP186)	1	30	108	103	Barrier	-5	
53	LCR E/B to Original Traffic	Lorry (BS D9 19)	1	50	102	99	Barrier	-5	**111**
		Breaker (Pneumatic) (BS D2 10)	1	50	110	107	Barrier	-5	
		Roller (CNP185)	1	20	108	101	Barrier	-5	
		Dump truck (BS D3 60)	1	20	110	103	Barrier	-5	
		Crane Mobile (BS D7 114)	1	100	101	101	Barrier	-5	
		Bulldozer (BS C2 13)	1	100	106	106	Barrier	-5	
		Asphalt Paver (CNP004)	1	80	109	108			
		Roller, Vibratory (CNP186)	1	100	108	108	Barrier	-5	

Note:
[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/)

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(HHS) EIA Report (Register No. AEIAR-164/2012)
Enclosure for movable plant : -5dB(A)
Enclosure for relatively static plant : -10dB(A)
Barrier for movable plant : -5 dB(A)
Barrier for relatively static plant : -10dB(A)
Acoustic mat : -10dB(A)

Appendix B1 : SCL Contract 1106 - Diamond Hill Station
Construction Plant Inventory (With Mitigation)

Area: Worksite S7 (Lung Cheung Road - WB)

No.	Activities	Name of PME (TM Ref./Other Ref.[1])	No. of PME	On Time %	Unit SWL, dB(A)	SWL, dB(A)	Type of Noise Control[3]	Noise Reduction	Total SWL, dB(A) [2]
54	Watermain Diversion (LCR)	Excavator/Loader, Wheeled/Tracked (BS D3 35)	1	100	106	106	Barrier	-5	**112**
		Lorry (BS D9 19)	1	20	102	95	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	20	100	93	Barrier	-5	
		Bar Bender and Cutter (CNP021)	1	50	90	87			
		Poker, Vibratory, Hand Held (BS D6 40)	1	20	98	91	Barrier	-5	
		Saw, Chain, Hand-held (CNP202)	1	50	114	111			
		Hand Held Breaker (CNP025)	1	30	111	106	Barrier	-5	
55	Gas Main Diversion (LCR)	Excavator/Loader, Wheeled/Tracked (BS D3 35)	1	100	106	106	Barrier	-5	**110**
		Lorry (BS D9 19)	1	20	102	95	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	20	100	93	Barrier	-5	
		Bar Bender and Cutter (CNP021)	1	50	90	87			
		Poker, Vibratory, Hand Held (BS D6 40)	1	20	98	91	Barrier	-5	
		Saw, Chain, Hand-held (CNP202)	1	30	114	109			
		Hand Held Breaker (CNP025)	1	30	111	106	Barrier	-5	
56	LCR Diversion Embankment Fill	Lorry (BS D9 19)	1	50	102	99	Barrier	-5	**111**
		Breaker (Pneumatic) (BS D2 10)	1	50	110	107	Barrier	-5	
		Roller (CNP185)	1	20	108	101	Barrier	-5	
		Dump truck (BS D3 60)	1	20	110	103	Barrier	-5	
		Crane Mobile (BS D7 114)	1	100	101	101	Barrier	-5	
		Bulldozer (BS C2 13)	1	100	106	106	Barrier	-5	
		Asphalt Paver (CNP004)	1	80	109	108			
		Roller, Vibratory (CNP186)	1	100	108	108	Barrier	-5	

Note:
[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/)

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(HHS) EIA Report (Register No. AEIAR-164/2012)
Enclosure for movable plant : -5dB(A)
Enclosure for relatively static plant : -10dB(A)
Barrier for movable plant : -5 dB(A)
Barrier for relatively static plant : -10dB(A)
Acoustic mat : -10dB(A)

Appendix B1 : SCL Contract 1106 - Diamond Hill Station
Construction Plant Inventory (With Mitigation)

Area: Worksite S7 (Lung Cheung Road - WB)

No.	Activities	Name of PME (TM Ref./Other Ref.[1])	No. of PME	On Time %	Unit SWL, dB(A)	SWL, dB(A)	Type of Noise Control[3]	Noise Reduction	Total SWL, dB(A) [2]
57	LCR W/B Diversion Construction	Lorry (BS D9 19)	1	50	102	99	Barrier	-5	**109**
		Breaker (Pneumatic) (BS D2 10)	1	50	110	107	Barrier	-5	
		Roller (CNP185)	1	20	108	101	Barrier	-5	
		Dump truck (BS D3 60)	1	20	110	103	Barrier	-5	
		Crane Mobile (BS D7 114)	1	100	101	101	Barrier	-5	
		Bulldozer (BS C2 13)	1	100	106	106	Barrier	-5	
		Asphalt Paver (CNP004)	1	80	109	108	Barrier	-5	
		Roller, Vibratory (CNP186)	1	100	108	108	Barrier	-5	
58	LCR W/B Deck Construction	Lorry (BS D9 19)	1	50	102	99	Barrier	-5	**111**
		Breaker (Pneumatic) (BS D2 10)	1	50	110	107	Barrier	-5	
		Roller (CNP185)	1	20	108	101	Barrier	-5	
		Dump truck (BS D3 60)	1	20	110	103	Barrier	-5	
		Crane Mobile (BS D7 114)	1	100	101	101	Barrier	-5	
		Bulldozer (BS C2 13)	1	100	106	106	Barrier	-5	
		Asphalt Paver (CNP004)	1	80	109	108			
		Roller, Vibratory (CNP186)	1	100	108	108	Barrier	-5	
59	LCR W/B Diversion Traffic	Lorry (BS D9 19)	1	50	102	99	Barrier	-5	**111**
		Breaker (Pneumatic) (BS D2 10)	1	50	110	107	Barrier	-5	
		Roller (CNP185)	1	20	108	101	Barrier	-5	
		Dump truck (BS D3 60)	1	20	110	103	Barrier	-5	
		Crane Mobile (BS D7 114)	1	100	101	101	Barrier	-5	
		Bulldozer (BS C2 13)	1	100	106	106	Barrier	-5	
		Asphalt Paver (CNP004)	1	80	109	108			
		Roller, Vibratory (CNP186)	1	100	108	108	Barrier	-5	

Note:
[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/)

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(HHS) EIA Report (Register No. AEIAR-164/2012)
Enclosure for movable plant : -5dB(A)
Enclosure for relatively static plant : -10dB(A)
Barrier for movable plant : -5 dB(A)
Barrier for relatively static plant : -10dB(A)
Acoustic mat : -10dB(A)

Appendix B1 : SCL Contract 1106 - Diamond Hill Station
Construction Plant Inventory (With Mitigation)

Area: Worksite S7 (Lung Cheung Road - WB)

No.	Activities	Name of PME (TM Ref./Other Ref.[1])	No. of PME	On Time %	Unit SWL, dB(A)	SWL, dB(A)	Type of Noise Control[3]	Noise Reduction	Total SWL, dB(A) [2]
60	LCR W/B Reinstatement	Lorry (BS D9 19)	1	50	102	99	Barrier	-5	**106**
		Breaker (Pneumatic) (BS D2 10)	1	40	110	106	Barrier	-5	
		Roller (CNP185)	1	20	108	101	Barrier	-5	
		Dump truck (BS D3 60)	1	20	110	103	Barrier	-5	
		Crane Mobile (BS D7 114)	1	70	101	99	Barrier	-5	
		Bulldozer (BS C2 13)	1	30	106	101	Barrier	-5	
		Asphalt Paver (CNP004)	1	20	109	102	Barrier	-5	
		Roller, Vibratory (CNP186)	1	30	108	103	Barrier	-5	
61	LCR W/B to Original Traffic	Lorry (BS D9 19)	1	50	102	99	Barrier	-5	**111**
		Breaker (Pneumatic) (BS D2 10)	1	50	110	107	Barrier	-5	
		Roller (CNP185)	1	20	108	101	Barrier	-5	
		Dump truck (BS D3 60)	1	20	110	103	Barrier	-5	
		Crane Mobile (BS D7 114)	1	100	101	101	Barrier	-5	
		Bulldozer (BS C2 13)	1	100	106	106	Barrier	-5	
		Asphalt Paver (CNP004)	1	80	109	108			
		Roller, Vibratory (CNP186)	1	100	108	108	Barrier	-5	

Note:
[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/)

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(HHS) EIA Report (Register No. AEIAR-164/2012)
Enclosure for movable plant : -5dB(A)
Enclosure for relatively static plant : -10dB(A)
Barrier for movable plant : -5 dB(A)
Barrier for relatively static plant : -10dB(A)
Acoustic mat : -10dB(A)

Appendix B1 : SCL Contract 1106 - Diamond Hill Station
Construction Plant Inventory (With Mitigation)

Area: Worksite S8 (Lung Cheung Road - WB)

No.	Activities	Name of PME (TM Ref./Other Ref.[1])	No. of PME	On Time %	Unit SWL, dB(A)	SWL, dB(A)	Type of Noise Control[3]	Noise Reduction	Total SWL, dB(A) [2]
62	Interchange Adit - Construct Barettes	Piling, Large Diameter Bored, Grab and Chisel (CNP164)	1	80	115	114	Acoustic Mat	-10	**110**
		Piling, Large Dia. Bored, Oscillator (CNP165)	1	50	115	112	Acoustic Mat	-10	
		Crane Mobile (BS D7 114)	2	80	101	103			
		Excavator/Loader, Wheeled/Tracked (BS D3 35)	1	80	106	105	Barrier	-5	
		Lorry (BS D9 19)	1	50	102	99	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	2	20	100	96	Barrier	-5	
		Bar Bender and Cutter (CNP021)	1	50	90	87			
		Air Compressor (CNP003)	1	50	104	101	Barrier	-5	
		Dump truck (BS D3 60)	1	50	110	107	Barrier	-5	
63	Interchange Adit - ELS (Part 1)	Crane Mobile (BS D7 114)	1	80	101	100			**103**
		Lorry (BS D9 19)	1	50	102	99	Barrier	-5	
		Pilling Rig and Drilling Rig (BS D4 44)	1	100	109	109	Acoustic Mat	-10	
64	Interchange Adit - Excavation (Part 1)	Excavator/Loader, Wheeled/Tracked (BS D3 35)	1	80	106	105	Barrier	-5	**105**
		Dump truck (BS D3 60)	1	50	110	107	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	1	100	85	85			
		Welder/Generator, Portable (CNP107)	1	100	100	100	Barrier	-5	
65	Interchange Adit - Structure (Part 1)	Bar Bender and Cutter (CNP021)	1	50	90	87			**106**
		Saw, Circular Wood (CNP201)	1	50	108	105			
		Poker, Vibratory, Hand Held (BS D6 40)	2	20	98	94	Barrier	-5	
		Crane Mobile (BS D7 114)	1	100	101	101	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	30	100	95	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	2	100	85	88			
		Welder/Generator, Portable (CNP107)	1	100	100	100	Barrier	-5	
		Tower Crane (CNP049)	1	60	95	93			
66	Interchange Adit - ELS (Part 2)	Crane Mobile (BS D7 114)	1	80	101	100	Barrier	-5	**101**
		Lorry (BS D9 19)	1	50	102	99	Barrier	-5	
		Pilling Rig and Drilling Rig (BS D4 44)	1	100	109	109	Acoustic Mat	-10	

Note:
[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/)

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(HHS) EIA Report (Register No. AEIAR-164/2012)
Enclosure for movable plant : -5dB(A)
Enclosure for relatively static plant : -10dB(A)
Barrier for movable plant : -5 dB(A)
Barrier for relatively static plant : -10dB(A)
Acoustic mat : -10dB(A)

Appendix B1 : SCL Contract 1106 - Diamond Hill Station
Construction Plant Inventory (With Mitigation)

Area: Worksite S8 (Lung Cheung Road - WB)

No.	Activities	Name of PME (TM Ref./Other Ref.[1])	No. of PME	On Time %	Unit SWL, dB(A)	SWL, dB(A)	Type of Noise Control[3]	Noise Reduction	Total SWL, dB(A) [2]
67	Interchange Adit - Excavation (Part 2)	Excavator/Loader, Wheeled/Tracked (BS D3 35)	1	80	106	105	Barrier	-5	**105**
		Dump truck (BS D3 60)	1	50	110	107	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	1	100	85	85			
		Welder/Generator, Portable (CNP107)	1	100	100	100	Barrier	-5	
68	Interchange Adit - Structure (Part 2)	Bar Bender and Cutter (CNP021)	1	50	90	87			**105**
		Saw, Circular Wood (CNP201)	1	30	108	103			
		Poker, Vibratory, Hand Held (BS D6 40)	2	20	98	94	Barrier	-5	
		Crane Mobile (BS D7 114)	1	100	101	101	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	30	100	95	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	2	100	85	88			
		Welder/Generator, Portable (CNP107)	1	100	100	100	Barrier	-5	
		Tower Crane (CNP049)	1	60	95	93			
69	Interchange Adit - ELS (Part 3)	Crane Mobile (BS D7 114)	1	80	101	100	Barrier	-5	**101**
		Lorry (BS D9 19)	1	50	102	99	Barrier	-5	
		Pilling Rig and Drilling Rig (BS D4 44)	1	100	109	109	Acoustic Mat	-10	
70	Interchange Adit - Excavation (Part 3)	Excavator/Loader, Wheeled/Tracked (BS D3 35)	1	80	106	105	Barrier	-5	**105**
		Dump truck (BS D3 60)	1	50	110	107	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	1	100	85	85			
		Welder/Generator, Portable (CNP107)	1	100	100	100	Barrier	-5	
71	Interchange Adit - Structure (Part 3)	Bar Bender and Cutter (CNP021)	1	50	90	87			**106**
		Saw, Circular Wood (CNP201)	1	50	108	105			
		Poker, Vibratory, Hand Held (BS D6 40)	2	20	98	94	Barrier	-5	
		Crane Mobile (BS D7 114)	1	100	101	101	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	30	100	95	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	2	100	85	88			
		Welder/Generator, Portable (CNP107)	1	100	100	100	Barrier	-5	
		Tower Crane (CNP049)	1	60	95	93			
72	Interchange Adit - Backfill	Bulldozer (BS C2 13)	1	100	106	106	Barrier	-5	**105**
		Roller, Vibratory (CNP186)	1	60	108	106	Barrier	-5	
		Lorry (BS D9 19)	1	80	102	101	Barrier	-5	
		Crane Mobile (BS D7 114)	1	100	101	101	Barrier	-5	
73	Adit D1 - ELS	Crane Mobile (BS D7 114)	1	80	101	100	Barrier	-5	**101**
		Lorry (BS D9 19)	1	50	102	99	Barrier	-5	
		Pilling Rig and Drilling Rig (BS D4 44)	1	100	109	109	Acoustic Mat	-10	

Note:
[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/)

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(HHS) EIA Report (Register No. AEIAR-164/2012)
Enclosure for movable plant : -5dB(A)
Enclosure for relatively static plant : -10dB(A)
Barrier for movable plant : -5 dB(A)
Barrier for relatively static plant : -10dB(A)
Acoustic mat : -10dB(A)

Appendix B1 : SCL Contract 1106 - Diamond Hill Station
Construction Plant Inventory (With Mitigation)

Area: Worksite S8 (Lung Cheung Road - WB)

No.	Activities	Name of PME (TM Ref./Other Ref.[1])	No. of PME	On Time %	Unit SWL, dB(A)	SWL, dB(A)	Type of Noise Control[3]	Noise Reduction	Total SWL, dB(A) [2]
74	Adit D1 - Excavation	Excavator/Loader, Wheeled/Tracked (BS D3 35)	1	80	106	105	Barrier	-5	**104**
		Dump truck (BS D3 60)	1	50	110	107	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	1	100	85	85			
		Welder/Generator, Portable (CNP107)	1	100	100	100	Barrier	-5	
75	Adit D1 - Structure	Bar Bender and Cutter (CNP021)	1	50	90	87			**105**
		Saw, Circular Wood (CNP201)	1	30	108	103			
		Poker, Vibratory, Hand Held (BS D6 40)	2	20	98	94	Barrier	-5	
		Crane Mobile (BS D7 114)	1	100	101	101	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	30	100	95	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	2	100	85	88			
		Welder/Generator, Portable (CNP107)	1	100	100	100	Barrier	-5	
		Tower Crane (CNP049)	1	60	95	93			
76	Adit D1 - ELS (Part 2)	Crane Mobile (BS D7 114)	1	80	101	100	Barrier	-5	**101**
		Lorry (BS D9 19)	1	50	102	99	Barrier	-5	
		Pilling Rig and Drilling Rig (BS D4 44)	1	100	109	109	Acoustic Mat	-10	
77	Adit D1 - Excavation (Part 2)	Excavator/Loader, Wheeled/Tracked (BS D3 35)	1	80	106	105	Barrier	-5	**105**
		Dump truck (BS D3 60)	1	50	110	107	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	1	100	85	85			
		Welder/Generator, Portable (CNP107)	1	100	100	100	Barrier	-5	
78	Adit D1 - Structure (Part 2)	Bar Bender and Cutter (CNP021)	1	50	90	87			**106**
		Saw, Circular Wood (CNP201)	1	50	108	105			
		Poker, Vibratory, Hand Held (BS D6 40)	2	20	98	94	Barrier	-5	
		Crane Mobile (BS D7 114)	1	100	101	101	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	30	100	95	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	2	100	85	88			
		Welder/Generator, Portable (CNP107)	1	100	100	100	Barrier	-5	
		Tower Crane (CNP049)	1	60	95	93			
79	Adit D1 - Backfill	Bulldozer (BS C2 13)	1	100	106	106	Barrier	-5	**105**
		Roller, Vibratory (CNP186)	1	60	108	106	Barrier	-5	
		Lorry (BS D9 19)	1	80	102	101	Barrier	-5	
		Crane Mobile (BS D7 114)	1	100	101	101	Barrier	-5	

Note:
[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/)

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(HHS) EIA Report (Register No. AEIAR-164/2012)
Enclosure for movable plant : -5dB(A)
Enclosure for relatively static plant : -10dB(A)
Barrier for movable plant : -5 dB(A)
Barrier for relatively static plant : -10dB(A)
Acoustic mat : -10dB(A)

Appendix B1 : SCL Contract 1106 - Diamond Hill Station
Construction Plant Inventory (With Mitigation)

Area: Worksite S8 (Lung Cheung Road - WB)

No.	Activities	Name of PME (TM Ref./Other Ref.[1])	No. of PME	On Time %	Unit SWL, dB(A)	SWL, dB(A)	Type of Noise Control[3]	Noise Reduction	Total SWL, dB(A) [2]
80	MOE (near B1) - ELS	Crane Mobile (BS D7 114)	1	80	101	100	Barrier	-5	**101**
		Lorry (BS D9 19)	1	50	102	99	Barrier	-5	
		Pilling Rig and Drilling Rig (BS D4 44)	1	100	109	109	Acoustic Mat	-10	
81	MOE (near B1) - Excavation	Excavator/Loader, Wheeled/Tracked (BS D3 35)	1	80	106	105	Barrier	-5	**105**
		Dump truck (BS D3 60)	1	50	110	107	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	1	100	85	85			
		Welder/Generator, Portable (CNP107)	1	100	100	100	Barrier	-5	
82	MOE (near B1) - Structure	Bar Bender and Cutter (CNP021)	1	50	90	87			**106**
		Saw, Circular Wood (CNP201)	1	50	108	105			
		Poker, Vibratory, Hand Held (BS D6 40)	2	20	98	94	Barrier	-5	
		Crane Mobile (BS D7 114)	1	100	101	101	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	30	100	95	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	2	100	85	88			
		Welder/Generator, Portable (CNP107)	1	100	100	100	Barrier	-5	
		Tower Crane (CNP049)	1	60	95	93			
83	Construction of Retrieval shaft at DIH East/West End	Crane Mobile (BS D7 114)	1	10	101	91	Barrier	-5	**86**

Note:
[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/)

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(HHS) EIA Report (Register No. AEIAR-164/2012)
Enclosure for movable plant : -5dB(A)
Enclosure for relatively static plant : -10dB(A)
Barrier for movable plant : -5 dB(A)
Barrier for relatively static plant : -10dB(A)
Acoustic mat : -10dB(A)

Appendix B1 : SCL Contract 1106 - Diamond Hill Station
Construction Plant Inventory (With Mitigation)

Area: Worksite S9 - Entrance A1 Disable Lift Corridor

No.	Activities	Name of PME (TM Ref./Other Ref.[1])	No. of PME	On Time %	Unit SWL, dB(A)	SWL, dB(A)	Type of Noise Control[3]	Noise Reduction	Total SWL, dB(A) [2]
84	Mobilisation	Lorry, with crane grab, gross wt. >38 tonnes (CNP144)	1	50	112	109	Barrier	-5	**104**
		Mini Backhoe (CNP082)	1	100	94	94	Barrier	-5	
85	A1 Lift - Site Clearance and Hoarding Erection	Lorry (BS D9 19)	1	70	102	100	Barrier	-5	**100**
		Breaker, hand held, mass >10kg and <20kg (CNP024)	1	20	108	101	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	80	100	99	Barrier	-5	
		Poker, Vibratory, Hand Held (BS D6 40)	1	30	98	93	Barrier	-5	
86	A1 Lift - Pre-drilling and Pre-bored H Piles (6nos)	Piling Rig & Drilling Rig (BS D4 44)	1	60	109	107	Acoustic Mat	-10	**99**
		Crane Mobile (BS D7 114)	1	70	101	99	Barrier	-5	
87	A1 Lift - Grouting Works	Piling Rig & Drilling Rig (BS D4 44)	1	50	109	106	Acoustic Mat	-10	**100**
		Lorry, crane /grab (CNP145)	1	50	105	102	Barrier	-5	
		Grout Mixer (CNP105)	1	20	90	83	Barrier	-5	
		Grout Pump (CNP106)	1	20	105	98	Barrier	-5	
88	A1 Lift - Sheet Piling works	Piling Rig & Drilling Rig (BS D4 44)	1	100	109	109	Acoustic Mat	-10	**107**
		Lorry, with crane grab, gross wt. >38 tonnes (CNP144)	1	80	112	111	Barrier	-5	
89	A1 Lift - Excavation & ELS	Lorry, with crane grab, gross wt. >38 tonnes (CNP144)	1	100	112	112	Barrier	-5	**108**
		Exacavator/ Loader, Wheeled/ Tracked (BS D3 35)	1	80	106	105	Barrier	-5	
		Dump truck with grab (CNP069)	1	80	105	104	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	1	100	85	85			
90	A1 Lift - Wall strenghtening Work	Lorry, with crane grab, gross wt. >38 tonnes (CNP144)	1	20	112	105	Barrier	-5	**103**
		Poker, Vibratory, Hand Held (BS D6 40)	1	20	98	91	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	20	100	93	Barrier	-5	
		Concrete Pumping Lorry (CNP054)	1	20	109	102	Barrier	-5	
		Roller (CNP185)	1	20	108	101	Barrier	-5	
91	A1 Lift - Construct Lift Shaft, wall & slab	Lorry, with crane grab, gross wt. >38 tonnes (CNP144)	1	50	112	109	Barrier	-5	**107**
		Poker, Vibratory, Hand Held (BS D6 40)	1	20	98	91	Barrier	-5	
		Concrete Lorry Mixer (BS D6 23)	1	20	100	93	Barrier	-5	
		Concrete Pumping Lorry (CNP054)	1	20	109	102			
		Roller (CNP185)	1	20	108	101	Barrier	-5	

Note:
[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/)

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(HHS) EIA Report (Register No. AEIAR-164/2012)
Enclosure for movable plant : -5dB(A)
Enclosure for relatively static plant : -10dB(A)
Barrier for movable plant : -5 dB(A)
Barrier for relatively static plant : -10dB(A)
Acoustic mat : -10dB(A)

Appendix B1 : SCL Contract 1106 - Diamond Hill Station
Construction Plant Inventory (With Mitigation)

Area: Worksite S11 - Haul Road East

No.	Activities	Name of PME (TM Ref./Other Ref.[1])	No. of PME	On Time %	Unit SWL, dB(A)	SWL, dB(A)	Type of Noise Control[3]	Noise Reduction	Total SWL, dB(A) [2]
92	Mobilisation	Concrete Lorry Mixer (BS D6 23)	1	20	100	93	Barrier	-5	**103**
		Exacavator/ Loader, Wheeled/ Tracked (BS D3 35)	1	100	106	106	Barrier	-5	
		Lorry (BS D9 19)	1	50	102	99	Barrier	-5	
		Crane Mobile (BS D7 114)	1	100	101	101	Barrier	-5	
		Poker, Vibratory, Hand Held (BS D6 40)	1	20	98	91	Barrier	-5	
93	Site Clearance	Dump truck, with grab, 5.5 tonne < gross vehicle weight < 38 tonne (CNP069)	1	80	105	104	Barrier	-5	**104**
		Exacavator/ Loader, Wheeled/ Tracked (BS D3 35)	1	80	106	105	Barrier	-5	
		Lorry, with crane, 5.5 tonne < gross vehicle weight < 38 tonne (CNP145)	1	80	105	104	Barrier	-5	
96	Operation of Steel Bending Facilites	Bar bender and cutter (electric) (CNP021)	6	80	90	97			**97**
97	Bored Piling Works [4]	Crane Mobile (BS D7 114)	2	60	101	102	Barrier	-5	**106**
		Air Compressor (CNP003)	1	50	104	101	Barrier	-5	
		Piling, large diameter bored, oscillator (CNP165)	2	40	115	114	Acoustic Mat	-10	
		Piling, large diameter bored, reverse circulation drill (CNP 166)	1	70	100	98	Acoustic Mat	-10	
		Concrete Lorry Mixer (BS D6 23)	2	20	100	96	Barrier	-5	
		Water Pump, Submersible (Electric) (CNP283)	2	100	85	88			
		Welder/generator, portable (CNP107)	1	50	100	97	Barrier	-5	

Note:
[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/)

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(HHS) EIA Report (Register No. AEIAR-164/2012)
Enclosure for movable plant : -5dB(A)
Enclosure for relatively static plant : -10dB(A)
Barrier for movable plant : -5 dB(A)
Barrier for relatively static plant : -10dB(A)
Acoustic mat : -10dB(A)

[4] Bored piling works entrusted by Planning Department

Appendix B1 : SCL Contract 1106 - Diamond Hill Station
Construction Plant Inventory (With Mitigation)

Area: Worksite S12 - DIH Drainage Construction

No.	Activities	Name of PME (TM Ref./Other Ref.[1])	No. of PME	On Time %	Unit SWL, dB(A)	SWL, dB(A)	Type of Noise Control[3]	Noise Reduction	Total SWL, dB(A) [2]
94	Utilities Diversion	Concrete Lorry Mixer (BS D6 23)	1	100	100	100	Barrier	-5	**108**
		Exacavator/ Loader, Wheeled/ Tracked (BS D3 35)	1	20	106	99	Barrier	-5	
		Lorry (BS D9 19)	1	20	102	95	Barrier	-5	
		Bar Bender & Cutter (CNP021)	1	50	90	87			
		Poker, Vibratory, Hand Held (BS D6 40)	1	20	98	91	Barrier	-5	
		Saw, Chain, Hand Held (CNP202)	1	50	114	111	Barrier	-5	
		Hand Held Breaker (CNP025)	1	30	111	106	Barrier	-5	

Note:
[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/)

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(HHS) EIA Report (Register No. AEIAR-164/2012)
Enclosure for movable plant : -5dB(A)
Enclosure for relatively static plant : -10dB(A)
Barrier for movable plant : -5 dB(A)
Barrier for relatively static plant : -10dB(A)
Acoustic mat : -10dB(A)

Appendix B1 : SCL Contract 1106 - Diamond Hill Station
Construction Plant Inventory (With Mitigation)

Area: Worksite S13 - Entrance A1 Disable Lift Corridor

No.	Activities	Name of PME (TM Ref./Other Ref.[1])	No. of PME	On Time %	Unit SWL, dB(A)	SWL, dB(A)	Type of Noise Control[3]	Noise Reduction	Total SWL, dB(A) [2]
95	A1 Lift - TTMs Temporary Traffic Diversion	Roller (CNP185)	1	20	108	101	Barrier	-5	**104**
		Exacavator/ Loader, Wheeled/ Tracked (BS D3 35)	1	80	106	105	Barrier	-5	
		Lorry, with crane grab, gross wt. >38 tonnes (CNP144)	1	20	112	105	Barrier	-5	
		Paint Line Marker (CNP161)	1	80	90	89			

Note:
[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/)

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(HHS) EIA Report (Register No. AEIAR-164/2012)
Enclosure for movable plant : -5dB(A)
Enclosure for relatively static plant : -10dB(A)
Barrier for movable plant : -5 dB(A)
Barrier for relatively static plant : -10dB(A)
Acoustic mat : -10dB(A)

Appendix B1 : SCL Contract 1106 - Diamond Hill Station
Construction Plant Inventory (With Mitigation)

Area: Worksite S15 - Extended Works Site for Site Operation

No.	Activities	Name of PME (TM Ref./Other Ref.[1])	No. of PME	On Time %	Unit SWL, dB(A)	SWL, dB(A)	Type of Noise Control[3]	Noise Reduction	Total SWL, dB(A) [2]
98	Site Operation	Dump truck, with grab, 5.5 tonne < gross vehicle weight < 38 tonne (CNP069)	2	30	105	103			**103**

Note:
[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/)

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(HHS) EIA Report (Register No. AEIAR-164/2012)
Enclosure for movable plant : -5dB(A)
Enclosure for relatively static plant : -10dB(A)
Barrier for movable plant : -5 dB(A)
Barrier for relatively static plant : -10dB(A)
Acoustic mat : -10dB(A)

Appendix B1 : SCL Contract 1106 - Diamond Hill Station
Construction Plant Inventory (With Mitigation)

Area: Worksite S16 - Extended Works Site for Site Office

No.	Activities	Name of PME (TM Ref./Other Ref.[1])	No. of PME	On Time %	Unit SWL, dB(A)	SWL, dB(A)	Type of Noise Control[3]	Noise Reduction	Total SWL, dB(A) [2]
99	Initial Site Set Up	Dump truck, with grab, 5.5 tonne < gross vehicle weight < 38 tonne (CNP069)	1	80	105	104	Barrier	-5	**104**
		Exacavator/ Loader, Wheeled/ Tracked (BS D3 35)	1	80	106	105	Barrier	-5	
		Lorry, with crane, 5.5 tonne < gross vehicle weight < 38 tonne (CNP145)	1	80	105	104	Barrier	-5	
100	Site Reinstatement	Lorry, with crane, 5.5 tonne < gross vehicle weight < 38 tonne (CNP145)	2	65	105	106			**106**

Note:
[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/)

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(HHS) EIA Report (Register No. AEIAR-164/2012)
Enclosure for movable plant : -5dB(A)
Enclosure for relatively static plant : -10dB(A)
Barrier for movable plant : -5 dB(A)
Barrier for relatively static plant : -10dB(A)
Acoustic mat : -10dB(A)

Appendix B2 :Noise Contribution from Works Contract 1106

No.	Activity Description	2012		2013												2014												2015												2016												2017											
		11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
	Daytime Period																																																															
	Shatin to Central Link - Diamond Hill Station, Entrances & Adits																																																															
	Worksite S1																																																															
1	Landscape & Finish																																										98	98	98	98	98																	
2	Entrance (A2) Construction buld head wall, Temp acces,opening & Staircase									104	104	104																																																				
4	Partial demolish Entrance (A2)												112	112	112																																																		
5	Entrance (A2) - Install ELS														101	101	101	101																																															
6	Entrance (A2) - Install Pipe Pile Wall														101	101	101																																															
7	Entrance (A2) - Install ELS near Adit D1														101	101	101																																															
8	Entrance (A2) - Demolish Subway																	111	111																																													
9	Entrance (A2) - Install ELS & Struts																		101	101																																											
10	Install ELS & Struts (West End)																			101	101	101																																									
11	Install Pipe Pile Wall (West End)																			101	101	101																																									
12	Install ELS near Adit D1																				101	101	101																																								
14	Entrance (A2) - Construct Bulk Head Wall, partial floor, slab and staircase																									104	104																																				
15	Entrance (A2) - Install ELS & Struts																										101	101																																			
16	Entrance (A2) - Demolish Subway & Install Struts																											112	112																																		
17	Entrance (A2) - Excavation																														105	105																														
18	Entrance (A2) - Structures																														104	104																														
19	DIH Structures - Base & Conc Slab, Mezz Slab, Columns, Access Slab, Roof Slab																																	104	104	104	104	104	104	104	104	104	104	104	104	104	104														
20	Internal Structures - ALL levels																																														104	104	104	104	104											
21	DIH - Ground Level Structures																																														105	105	105	105	105											
22	DIH Tx Rooms Structures																																																			105	105										
	Total SWL from Worksite S1									104	104	104	112	112	113	106	106	111	111	106	106	106	101			104	106	112	112		108	108		104	104	104	104	104	104	104	104	104	105	105	105	105	110	108	108	108	108	105	105										
	Worksite S2																																																															
23	Landscape & Finish																																										98	98	98	98	98																	
25	DIH Structures - Base & Conc Slab, Mezz Slab, Columns, Access Slab, Roof Slab																														104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104															
26	Internal Structures - ALL levels																							104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104															
	Total SWL from Worksite S2																														104	104	104	104	104	107	107	107	107	107	107	107	108	108	108	108	108	104														
	Worksite S3																																																															
27	Site Clearance		106	106	106																																																											
28	Hoardings		101	101	101																																																										
29	Utility Diversions		108	108	108																																																										
31	Landscape & Finish																																									98	98	98	98	98	98																
32	ALL D Wall					104	104	104	104	104	104	104	104	104																																																		
33	Excavation (From GL to -20.8m)																	108	108	108	108	108	108	108	108																																						
34	DIH Structures - Base & Conc Slab, Mezz Slab, Columns, Roof Slab																								106	106	106	106	106	106	106	106	106	106	106																													
35	Internal Structures - ALL levels																													106	106	106	106	106	106	106	106	106	106	106																							
101	Tree Transplanting - DT1911																		111																																												
	Total SWL from Worksite S3		111	111	111	104	104	104	104	104	104	104	104	104				108	113	108	108	108	108	108	110	106	106	106	106	106	109	109	109	109	109	106	106	106	106	106		98	98	98	98	98	98														
	Worksite S4																																																															
27	Site Clearance		106	106	106																																																										
28	Hoardings		101	101	101																																																									
29	Utility Diversions		108	108	108																																																									
31	Landscape & Finish																																									98	98	98	98	98	98																
36	Dwall					104	104	104	104	104	104	104	104	104	104																																																	
37	Tree Transplanting (CAT D) - DT1885										111																																																				
38	Excavation to -1.2														108	108																																															
39	Excavation to -20.8																105	105	105	105	105	105																																								
40	DIH - Structure																					107	107	107	107	107	107	107	107	107	107	107	107	107	107																											
	Total SWL from Worksite S4		111	111	111	104	104	104	104	104	112	104	104	104	109	108	105	105	105	105	105	109	107	107	107	107	107	107	107	107	107	107	107	107	107							98	98	98	98	98	98														
	Worksite S5																																																															
27	Site Clearance		106	106	106																																																										
28	Hoardings		101	101	101																																																									
29	Utility Diversions		108	108	108																																																										
31	Landscape & Finish																																									98	98	98	98	98	98																
41	Dwall									104	104	104																																																			
42	Dwall												106	106																																																	
44	Dwall													104	104																																																
45	Excavation to -20.8														108	108	108	108	108	108																																											
46	DIH - Structure																				106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106																							
	Total SWL from Worksite S5		111	111	111					104	104	104	106	108	109	108	108	108	108	108	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	98	98	98	98	98	98														
	Worksite S6																																																															
47	Watermain Diversion (LCR)																112	112	112																																													
48	Gas Main Diversion (LCR)																112	112	112																																													
49	LCR Diversion Embankment Fill																			111	111	111																																									
50	LCR E/B Widening																										111	111	111																																		
51	LCR E/B Diversion Traffic																													111																																
52	LCR E/B Reinstatement																																						106	106	106																					
53	LCR E/B to Original Traffic																																								111																				
	Total SWL from Worksite S6																115	115	115		111	111	111				111	111	111	111								106	106	112																						

Appendix B2 :Noise Contribution from Works Contract 1106

No.	Activity Description	2012		2013												2014												2015												2016												2017											
		11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
	Worksite S7																																																															
54	Watermain Diversion (LCR)																112	112	112																																													
55	Gas Main Diversion (LCR)																110	110	110																																													
56	LCR Diversion Embankment Fill																				111	111	111																																								
57	LCR W/B Diversion Construction																							109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109																										
58	LCR W/B Deck Construction																										111	111	111																																		
59	LCR W/B Diversion Traffic																													111																																
60	LCR W/B Reinstatement																																						106	106	106																						
61	LCR W/B to Original Traffic																																								111																					
	Total SWL from Worksite S7																114	114	114		111	111	111	109	109	109	113	113	113	113	109	109	109	109	109	109	109	109	111	106	112																							
	Worksite S8																																																													
62	Interchange Adit - Construct Barettes											110	110	110	110																																															
63	Interchange Adit - ELS (Part 1)															103	103	103																																											
64	Interchange Adit - Excavation (Part 1)																		105	105	105																																								
65	Interchange Adit - Structure (Part 1)																					106	106	106																																					
66	Interchange Adit - ELS (Part 2)																														101	101	101																												
67	Interchange Adit - Excavation (Part 2)																																	105	105	105																									
68	Interchange Adit - Structure (Part 2)																																				105	105	105																						
69	Interchange Adit - ELS (Part 3)																																								101	101	101																		
70	Interchange Adit - Excavation (Part 3)																																											105	105	105														
71	Interchange Adit - Structure (Part 3)																																														106	106	106										
72	Interchange Adit - Backfill																																																	105										
73	Adit D1 - ELS																														101	101	101																										
74	Adit D1 - Excavation																																	104	104	104																							
75	Adit D1 - Structure																																				105	105	105																				
76	Adit D1 - ELS (Part 2)																																								101	101	101																
77	Adit D1 - Excavation (Part 2)																																											105	105	105												
78	Adit D1 - Structure (Part 2)																																														106	106	106									
79	Adit D1 - Backfill																																																	105								
80	MOE (near B1) - ELS																																												101	101											
81	MOE (near B1) - Excavation																																													105	105										
82	MOE (near B1) - Structure																																														106	106	106								
83	Construction of Retrieval shaft at DIH Interchange/Adit																									86			86			86																												
	Total SWL from Worksite S8											110	110	110	110	103	103	103	105	105	105	106	106	106		86			86		104	104	104	107	107	107	108	108	108		104	104	104	108	109	110	112	111	111	108										
	Worksite S9																																																												
84	Mobilisation																				104	104																																							
85	A1 Lift - Site Clearance and Hoarding Erection																												100	100	100																													
86	A1 Lift - Pre-drilling and Pre-bored H Piles (6nos)																															99	99																											
87	A1 Lift - Grouting Works																																100	100	100																								
88	A1 Lift - Sheet Piling works																																			107	107																							
89	A1 Lift - Excavation & ELS																																				108	108																					
90	A1 Lift - Wall strenghtening Work																																					103	103																				
91	A1 Lift - Construct Lift Shaft, wall & slab																																							107	107	107																	
	Total SWL from Worksite S9																				104	104							100	100	100	99	103	100	100	107	111	109	103	107	107	107																	
	Worksite S11																																																											
92	Mobilisation						103	103																																																				
93	Site Clearance							104	104																																																			
96	Operation of Steel Bending Facilites									97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97										
97	Bored Piling Works **[1]**									106	106	106	106	106	106	106	106	106	106	106	106	106																																						
	Total SWL from Worksite S11						103	107	104	106	106	106	106	106	106	106	106	106	106	106	106	106	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97										
	Worksite S12																																																												
94	Utilities Diversion																																																			108	108	108	108	108	108					
	Total SWL from Worksite S12																																																			108	108	108	108	108	108					
	Worksite S13																																																												
95	A1 Lift - TTMs Temporary Traffic Diversion																		104	104	104																																							
	Total SWL from Worksite S13																		104	104	104																																							
	Worksite S15																																																												
98	Site Operation					103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103										
	Total SWL from Worksite S15					103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103										
	Worksite S16																																																												
99	Initial Site Set Up			104	104																																																								
100	Site Reinstatement																																																			106	106	106	106	106						
	Total SWL from Worksite S16			104	104																																															106	106	106	106	106						

Remark:

X - indicates construction works in progress

[1] - Bored Piling Works on Worksite S11 (Activity No. 97) is entrusted by Planning Department

Appendix B3 :Noise Contribution from Concurrent Works

Table B3.1 - Noise Contribution from other works area under SCL Works Contract 1103 (The figures are extracted from the latest CNMMP of Works Contract 1103)

Works Area/Total SWL (dB(A))	2012		2013												2014												2015												2016												2017											
	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Worksite S1	110	110	110	111	111	111	111	111	111	111	111	111	111	111	111	109	109	108	108	100	100	100	100	100	100	100	0	0	109	109	0	0	0	0	0	0	0	112	112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S2	110	110	110	111	111	111	111	111	111	111	111	111	111	111	111	109	109	108	108	100	100	100	100	100	100	100	0	0	109	109	0	0	0	0	0	0	0	112	112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S10	110	110	110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table B3.2 - Noise Contribution from other works area under SCL Works Contract 1107 (The figures are extracted from the latest CNMMP of Works Contract 1107)

Works Area/Total SWL (dB(A))	2012		2013												2014												2015												2016												2017											
	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Worksite S3a	0	0	0	0	0	0	0	0	0	0	0	115	115	115	115	115	115	115	0	109	109	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S14	0	0	0	0	0	0	0	0	0	0	0	108	108	108	101	101	101	101	0	0	0	0	0	0	103	103	103	103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Remark:

Cumulative impact arisen from Tsz Wan Shan Pedestrian Link (i.e. Worksite S21 & S22 in Appendix C) is not anticipated given the separation distance of >300m between the works sites and NSRs.

Appendix B4 : Accumulated Noise Contribution from each Worksite

Table B4 - Accumlated Noise Contribution from Works Contract 1106 + Works Contract 1103 + Works Contract 1107 + Tsz Wan Shan Pedestrian Link

Works Area/Total SWL (dB(A))	2012		2013												2014												2015												2016												2017											
	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Worksite S1	110	110	110	111	111	111	111	111	112	112	112	115	115	115	112	111	113	113	110	107	107	104	100	100	106	107	112	112	109	111	108	0	104	104	104	104	104	113	113	104	104	105	105	105	105	110	108	108	108	108	105	105	0	0	0	0	0	0	0	0	0	0
Worksite S2	110	110	110	111	111	111	111	111	111	111	111	111	111	111	111	109	109	108	108	100	100	100	100	100	100	100	0	0	109	110	104	104	104	104	107	107	107	113	113	107	107	108	108	108	108	108	104	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S3	0	111	111	111	104	104	104	104	104	104	104	104	104	0	0	0	108	113	108	108	108	108	108	110	106	106	106	106	109	109	109	109	109	109	106	106	106	106	106	0	98	98	98	98	98	98	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S3a	0	0	0	0	0	0	0	0	0	0	0	115	115	115	115	115	115	115	0	109	109	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S4	0	111	111	111	104	104	104	104	104	112	104	104	104	109	108	105	105	105	105	105	109	107	107	107	107	107	107	107	107	107	107	107	107	107	107	0	0	0	0	0	98	98	98	98	98	98	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S5	0	111	111	111	0	0	0	0	104	104	104	106	108	109	108	108	108	108	108	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	98	98	98	98	98	98	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	115	115	115	0	111	111	111	0	0	0	111	111	111	111	0	0	0	0	0	0	0	0	106	106	112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	114	114	114	0	111	111	111	109	109	109	113	113	113	113	109	109	109	109	109	109	109	109	111	106	112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S8	0	0	0	0	0	0	0	0	0	0	110	110	110	110	103	103	103	105	105	105	106	106	106	0	86	0	0	86	0	104	104	104	107	107	107	108	108	108	0	104	104	104	108	109	110	112	111	111	108	0	0	0	0	0	0	0	0	0	0	0
Worksite S9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	104	104	0	0	0	0	0	0	100	100	100	99	103	100	100	107	111	109	103	107	107	107	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S10	110	110	110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S11	0	0	0	0	0	103	107	104	106	106	106	106	106	106	106	106	106	106	106	106	106	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	0	0	0	0	0	0	0	0	0	0
Worksite S12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	108	108	108	108	108	108	0	0	0	0	0
Worksite S13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	104	104	104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S14	0	0	0	0	0	0	0	0	0	0	0	108	108	108	101	101	101	101	0	0	0	0	0	0	103	103	103	103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S15	0	0	0	0	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	0	0	0	0	0	0	0	0	0	0
Worksite S16	0	0	104	104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	106	106	106	106	106	0	0	0	0	0	0	0

Appendix B5 :Accumulated Noise Level on NSRs

Predicted Construction Noise Level dB(A)

NSR ID	NSR Description	Distance, m	Corr. for Distance, dB (A)	Facade Correction, dB(A)	Total Correction, dB(A)	2012		2013											
						11	12	1	2	3	4	5	6	7	8	9	10	11	12
DIH 9-1	Shek On Building																		
	Worksite S1	210	-54.4	3	-51.4	59	59	59	60	60	60	60	60	60	60	60	63	63	64
	Worksite S2	260	-56.3	3	-53.3	57	57	57	58	58	58	58	58	58	58	58	58	58	58
	Worksite S3																		
	Worksite S3a																		
	Worksite S4																		
	Worksite S5																		
	Worksite S6	285	-57.1	3	-54.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S7	245	-55.8	3	-52.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S8	275	-56.8	3	-53.8	0	0	0	0	0	0	0	0	0	0	56	56	56	56
	Worksite S9	275	-56.8	3	-53.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S10	275	-56.8	3	-53.8	56	56	56	0	0	0	0	0	0	0	0	0	0	0
	Worksite S11																		
	Worksite S12																		
	Worksite S13	285	-57.1	3	-54.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S14																		
	Worksite S15																		
	Worksite S16																		
	Predicted Noise Level at NSR (dB(A))					**62**	**62**	**62**	**62**	**62**	**62**	**62**	**62**	**62**	**62**	**63**	**65**	**65**	**65**
DIH 13-1	Canossa Primary School																		
	Worksite S1	**265**	-56.4	3	-53.4	57	57	57	58	58	58	58	58	58	58	58	61	61	62
	Worksite S2																		
	Worksite S3																		
	Worksite S3a																		
	Worksite S4																		
	Worksite S5																		
	Worksite S6																		
	Worksite S7	295	-57.4	3	-54.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S8																		
	Worksite S9																		
	Worksite S10																		
	Worksite S11																		
	Worksite S12																		
	Worksite S13																		
	Worksite S14																		
	Worksite S15																		
	Worksite S16																		
	Predicted Noise Level at NSR (dB(A))					**57**	**57**	**57**	**58**	**58**	**58**	**58**	**58**	**58**	**58**	**58**	**61**	**61**	**62**
DIH 14-1	Rhythm Garden Block 2																		
	Worksite S1																		
	Worksite S2																		
	Worksite S3																		
	Worksite S3a	270	-56.6	3	-53.6	0	0	0	0	0	0	0	0	0	0	0	62	62	62
	Worksite S4	275	-56.8	3	-53.8	0	57	57	57	50	50	50	50	50	58	50	50	50	55
	Worksite S5	225	-55.0	3	-52.0	0	58	58	58	0	0	0	0	52	52	52	54	56	57
	Worksite S6																		
	Worksite S7	290	-57.2	3	-54.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S8																		
	Worksite S9																		
	Worksite S10																		
	Worksite S11	167	-52.4	3	-49.4	0	0	0	0	0	54	57	55	57	57	57	57	57	57
	Worksite S12	145	-51.2	3	-48.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S13																		
	Worksite S14	60	-43.5	3	-40.5	0	0	0	0	0	0	0	0	0	0	0	68	68	68
	Worksite S15	198	-53.9	3	-50.9	0	0	0	0	52	52	52	52	52	52	52	52	52	52
	Worksite S16	110	-48.8	3	-45.8	0	0	58	58	0	0	0	0	0	0	0	0	0	0
	Predicted Noise Level at NSR (dB(A))					**0**	**61**	**63**	**63**	**54**	**57**	**59**	**57**	**60**	**62**	**60**	**69**	**69**	**69**

NSR / Worksite	2014												2015											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
DIH 9-1 Shek On Building																								
Worksite S1	61	59	62	62	59	56	56	52	49	49	54	56	61	60	58	60	56	0	53	53	53	53	53	61
Worksite S2	58	56	56	55	55	47	47	47	47	47	47	47	0	0	56	57	51	51	51	51	54	54	54	60
Worksite S3																								
Worksite S3a																								
Worksite S4																								
Worksite S5																								
Worksite S6	0	61	61	61	0	57	57	57	0	0	0	57	57	57	57	0	0	0	0	0	0	0	0	52
Worksite S7	0	61	61	61	0	58	58	58	57	57	57	61	61	61	61	57	57	57	57	57	57	57	57	58
Worksite S8	49	49	49	51	51	51	53	53	53	0	32	0	0	32	0	51	51	51	54	54	54	54	54	54
Worksite S9	0	0	0	0	0	50	50	0	0	0	0	0	0	46	46	46	45	49	47	47	53	57	56	49
Worksite S10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S11																								
Worksite S12																								
Worksite S13	0	0	0	50	50	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S14																								
Worksite S15																								
Worksite S16																								
Predicted Noise Level at NSR (dB(A))	**63**	**66**	**67**	**67**	**61**	**63**	**63**	**62**	**59**	**58**	**59**	**63**	**64**	**64**	**64**	**63**	**61**	**59**	**60**	**60**	**61**	**62**	**62**	**65**
DIH 13-1 Canossa Primary School																								
Worksite S1	59	57	60	60	57	54	54	50	47	47	52	54	59	58	56	58	54	0	51	51	51	51	51	59
Worksite S2																								
Worksite S3																								
Worksite S3a																								
Worksite S4																								
Worksite S5																								
Worksite S6																								
Worksite S7	0	60	60	60	0	57	57	57	55	55	55	59	59	59	59	55	55	55	55	55	55	55	55	57
Worksite S8																								
Worksite S9																								
Worksite S10																								
Worksite S11																								
Worksite S12																								
Worksite S13																								
Worksite S14																								
Worksite S15																								
Worksite S16																								
Predicted Noise Level at NSR (dB(A))	**59**	**62**	**63**	**63**	**57**	**58**	**58**	**58**	**56**	**56**	**57**	**60**	**62**	**62**	**61**	**60**	**58**	**55**	**56**	**56**	**56**	**56**	**56**	**61**
DIH 14-1 Rhythm Garden Block 2																								
Worksite S1																								
Worksite S2																								
Worksite S3																								
Worksite S3a	62	62	62	62	0	56	56	56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S4	54	51	51	51	51	51	55	53	53	53	53	53	53	53	53	53	53	53	53	53	53	0	0	0
Worksite S5	56	56	56	56	56	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
Worksite S6																								
Worksite S7	0	60	60	60	0	57	57	57	55	55	55	59	59	59	59	55	55	55	55	55	55	55	55	57
Worksite S8																								
Worksite S9																								
Worksite S10																								
Worksite S11	57	57	57	57	57	57	57	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Worksite S12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S13																								
Worksite S14	60	60	60	60	0	0	0	0	0	0	63	63	63	63	0	0	0	0	0	0	0	0	0	0
Worksite S15	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52
Worksite S16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Predicted Noise Level at NSR (dB(A))	**66**	**67**	**67**	**67**	**61**	**63**	**63**	**62**	**60**	**60**	**65**	**65**	**65**	**65**	**62**	**60**	**60**	**60**	**60**	**60**	**60**	**59**	**59**	**60**

NSR / Worksite	2016												2017												Max. CNL, dB(A)
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	
DIH 9-1 Shek On Building																									
Worksite S1	61	53	53	54	54	54	54	58	56	56	56	56	54	54	0	0	0	0	0	0	0	0	0	0	
Worksite S2	60	54	54	55	55	55	55	55	51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Worksite S3																									
Worksite S3a																									
Worksite S4																									
Worksite S5																									
Worksite S6	52	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Worksite S7	54	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Worksite S8	0	51	51	51	54	55	56	58	57	57	54	0	0	0	0	0	0	0	0	0	0	0	0	0	
Worksite S9	53	53	53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Worksite S10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Worksite S11																									
Worksite S12																									
Worksite S13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Worksite S14																									
Worksite S15																									
Worksite S16																									
Predicted Noise Level at NSR (dB(A))	**65**	**64**	**59**	**58**	**59**	**59**	**60**	**62**	**60**	**60**	**59**	**56**	**54**	**54**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**67**
DIH 13-1 Canossa Primary School																									
Worksite S1	59	51	51	52	52	52	52	56	54	54	54	54	52	52	0	0	0	0	0	0	0	0	0	0	
Worksite S2																									
Worksite S3																									
Worksite S3a																									
Worksite S4																									
Worksite S5																									
Worksite S6																									
Worksite S7	52	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Worksite S8																									
Worksite S9																									
Worksite S10																									
Worksite S11																									
Worksite S12																									
Worksite S13																									
Worksite S14																									
Worksite S15																									
Worksite S16																									
Predicted Noise Level at NSR (dB(A))	**60**	**59**	**51**	**52**	**52**	**52**	**52**	**56**	**54**	**54**	**54**	**54**	**52**	**52**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**63**
DIH 14-1 Rhythm Garden Block 2																									
Worksite S1																									
Worksite S2																									
Worksite S3																									
Worksite S3a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Worksite S4	0	0	45	45	45	45	45	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Worksite S5	54	54	46	46	46	46	46	46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Worksite S6																									
Worksite S7	52	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Worksite S8																									
Worksite S9																									
Worksite S10																									
Worksite S11	47	47	47	47	47	47	47	47	47	47	47	47	0	0	0	0	0	0	0	0	0	0	0	0	
Worksite S12	0	0	0	0	0	0	0	0	0	0	0	0	0	60	60	60	60	60	60	0	0	0	0	0	
Worksite S13																									
Worksite S14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Worksite S15	52	52	52	52	52	52	52	52	52	52	52	52	0	0	0	0	0	0	0	0	0	0	0	0	
Worksite S16	0	0	0	0	0	0	0	0	0	0	0	0	60	60	60	60	60	0	0	0	0	0	0	0	
Predicted Noise Level at NSR (dB(A))	**58**	**61**	**54**	**54**	**54**	**54**	**54**	**54**	**53**	**53**	**53**	**53**	**60**	**63**	**63**	**63**	**63**	**60**	**60**	**0**	**0**	**0**	**0**	**0**	**69**

Appendix B5 :Accumulated Noise Level on NSRs

NSR ID	NSR Description	Distance, m	Corr. for Distance, dB (A)	Facade Correction, dB(A)	Total Correction, dB(A)	Predicted Construction Noise Level dB(A)																																																												Max. CNL, dB(A)
						2012		2013												2014												2015												2016												2017												
						11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	
DIH 14-4	**Canossa Primary School (San Po Kong)**																																																																			
	Worksite S1																																																																			
	Worksite S2																																																																				
	Worksite S3	250	-55.9	3	-52.9	0	58	58	58	51	51	51	51	51	51	51	51	51	0	0	0	55	60	55	55	55	55	55	57	53	53	53	53	56	56	56	56	56	56	53	53	53	53	53	0	45	45	45	45	45	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S3a																																																																				
	Worksite S4	205	-54.2	3	-51.2	0	59	59	59	53	53	53	53	53	61	53	53	53	58	56	53	53	53	53	53	58	55	55	55	55	55	55	55	55	55	55	55	55	55	55	0	0	0	0	0	47	47	47	47	47	47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S5	180	-53.1	3	-50.1	0	60	60	60	0	0	0	0	54	54	54	55	58	59	58	58	58	58	58	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	48	48	48	48	48	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S6	280	-56.9	3	-53.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	61	61	61	0	57	57	57	0	0	0	57	57	57	57	0	0	0	0	0	0	0	0	52	52	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S7	250	-55.9	3	-52.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	61	61	61	0	58	58	58	56	56	56	60	60	60	60	56	56	56	56	56	56	56	56	58	53	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S8	280	-56.9	3	-53.9	0	0	0	0	0	0	0	0	0	0	56	56	56	56	49	49	49	51	51	51	52	52	52	0	32	0	0	32	0	50	50	50	54	54	54	54	54	54	0	50	50	50	54	55	56	58	57	57	54	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S9																																																																				
	Worksite S10	245	-55.8	3	-52.8	57	57	57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S11	154	-51.7	3	-48.7	0	0	0	0	0	54	58	55	58	58	58	58	58	58	58	58	58	58	58	58	58	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S12	105	-48.4	3	-45.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	62	62	62	62	62	62	0	0	0	0	0	
	Worksite S13																																																																				
	Worksite S14	200	-54.0	3	-51.0	0	0	0	0	0	0	0	0	0	0	0	57	57	57	50	50	50	50	0	0	0	0	0	0	52	52	52	52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S15	136	-50.7	3	-47.7	0	0	0	0	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S16	148	-51.4	3	-48.4	0	0	56	56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58	58	58	58	58	0	0	0	0	0	0	0	
	Predicted Noise Level at NSR (dB(A))					**57**	**65**	**65**	**65**	**58**	**60**	**61**	**60**	**62**	**64**	**63**	**64**	**64**	**65**	**63**	**66**	**67**	**67**	**63**	**65**	**65**	**64**	**63**	**63**	**63**	**65**	**65**	**65**	**65**	**63**	**63**	**63**	**63**	**63**	**63**	**62**	**62**	**63**	**62**	**64**	**58**	**58**	**59**	**59**	**60**	**61**	**60**	**60**	**58**	**56**	**58**	**64**	**64**	**64**	**64**	**62**	**62**	**0**	**0**	**0**	**0**	**0**	**67**
DIH 14-5	**Rhythm Garden Block 1**																																																																			
	Worksite S1																																																																			
	Worksite S2																																																																				
	Worksite S3	295	-57.4	3	-54.4	0	56	56	56	49	49	49	49	49	49	49	49	49	0	0	0	53	59	53	53	53	53	53	56	52	52	52	52	55	55	55	55	55	55	52	52	52	52	52	0	44	44	44	44	44	44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S3a																																																																				
	Worksite S4	235	-55.4	3	-52.4	0	58	58	58	51	51	51	51	51	60	51	51	51	57	55	52	52	52	52	52	56	54	54	54	54	54	54	54	54	54	54	54	54	54	54	0	0	0	0	0	46	46	46	46	46	46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S5	180	-53.1	3	-50.1	0	60	60	60	0	0	0	0	54	54	54	55	58	59	58	58	58	58	58	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	48	48	48	48	48	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S6	290	-57.2	3	-54.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	61	61	61	0	57	57	57	0	0	0	57	57	57	57	0	0	0	0	0	0	0	0	52	52	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S7	250	-55.9	3	-52.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	61	61	61	0	58	58	58	56	56	56	60	60	60	60	56	56	56	56	56	56	56	56	58	53	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S8	290	-57.2	3	-54.2	0	0	0	0	0	0	0	0	0	0	56	56	56	56	49	49	49	50	50	50	52	52	52	0	32	0	0	32	0	50	50	50	53	53	53	54	54	54	0	50	50	50	53	54	56	58	57	57	54	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S9																																																																				
	Worksite S10																																																																				
	Worksite S11	124	-49.9	3	-46.9	0	0	0	0	0	56	60	57	59	59	59	59	59	59	59	59	59	59	59	59	59	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S12	100	-48.0	3	-45.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	63	63	63	63	63	63	0	0	0	0	0	
	Worksite S13																																																																				
	Worksite S14	95	-47.5	3	-44.5	0	0	0	0	0	0	0	0	0	0	0	64	64	64	56	56	56	56	0	0	0	0	0	0	59	59	59	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S15	151	-51.6	3	-48.6	0	0	0	0	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S16	70	-44.9	3	-41.9	0	0	62	62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	64	64	64	64	64	0	0	0	0	0	0	0	
	Predicted Noise Level at NSR (dB(A))					**0**	**63**	**66**	**66**	**57**	**60**	**62**	**60**	**62**	**64**	**63**	**66**	**67**	**67**	**64**	**67**	**67**	**67**	**63**	**65**	**65**	**64**	**63**	**63**	**64**	**66**	**66**	**66**	**65**	**63**	**63**	**63**	**63**	**63**	**63**	**62**	**62**	**63**	**61**	**64**	**58**	**58**	**59**	**59**	**59**	**60**	**59**	**59**	**58**	**56**	**64**	**67**	**67**	**67**	**67**	**63**	**63**	**0**	**0**	**0**	**0**	**0**	**67**

Appendix B6 :SCL Contract 1106 - Summary of Predicted Accumulated Noise Levels from Construction at NSRs

NSR Location [NSR ID]	EIAO-TM Noise Criteria, dB (A)*	2012		2013												2014												2015												2016												2017											
		11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Shek On Building [DIH-9-1]	70 (65)	62	62	62	62	62	62	62	62	62	62	63	65	65	65	63	66	67	67	61	63	63	62	59	58	59	63	64	64	64	63	61	59	60	60	61	62	62	65	65	64	59	58	59	59	60	62	60	60	59	56	54	54	0	0	0	0	0	0	0	0	0	0
Canossa Primary School [DIH-13-1]	70 (65)	57	57	57	58	58	58	58	58	58	58	58	61	61	62	59	62	63	63	57	58	58	58	56	56	57	60	62	62	61	60	58	55	56	56	56	56	56	61	60	59	51	52	52	52	52	56	54	54	54	54	52	52	0	0	0	0	0	0	0	0	0	0
Rhythm Garden Block 2 [DIH-14-1]	75	0	61	63	63	54	57	59	57	60	62	60	69	69	69	66	67	67	67	61	63	63	62	60	60	65	65	65	65	62	60	60	60	60	60	60	59	59	60	58	61	54	54	54	54	54	54	53	53	53	53	60	63	63	63	63	60	60	0	0	0	0	0
Canossa Primary School (San Po Kong) [DIH-14-4]	70 (65)	57	65	65	65	58	60	61	60	62	64	63	64	64	65	63	66	67	67	63	65	65	64	63	63	63	65	65	65	65	63	63	63	63	63	63	62	62	63	62	64	58	58	59	59	60	61	60	60	58	56	58	64	64	64	64	62	62	0	0	0	0	0
Rhythm Garden Block 1 [DIH-14-5]	75	0	63	66	66	57	60	62	60	62	64	63	66	67	67	64	67	67	67	63	65	65	64	63	63	64	66	66	66	65	63	63	63	63	63	63	62	62	63	61	64	58	58	59	59	59	60	59	59	58	56	64	67	67	67	67	63	63	0	0	0	0	0

Remarks:

* Values in parentheses indicates noise criterion during the examination period (typical examination period in May, June, November and December) of the educational institution. The examination periods of Shek On House [DIH-9-1], Canossa Primary School [DIH-13-1] and Canossa Primary School (San Po Kong) [DIH-14-4] are subject to schools' activity schedules when available.

APPENDIX C –
Location and Notional Distance from Works Areas of NSRs

Appendix C –Location and Notional Distance from Works Areas of NSRs

Notional Distance from Construction Sites to NSRs (in meter)

[Extracted from Appendix 8.10H of approved SCL (HHS) EIA Report except for Worksites S3a, S11, S15 & S16]

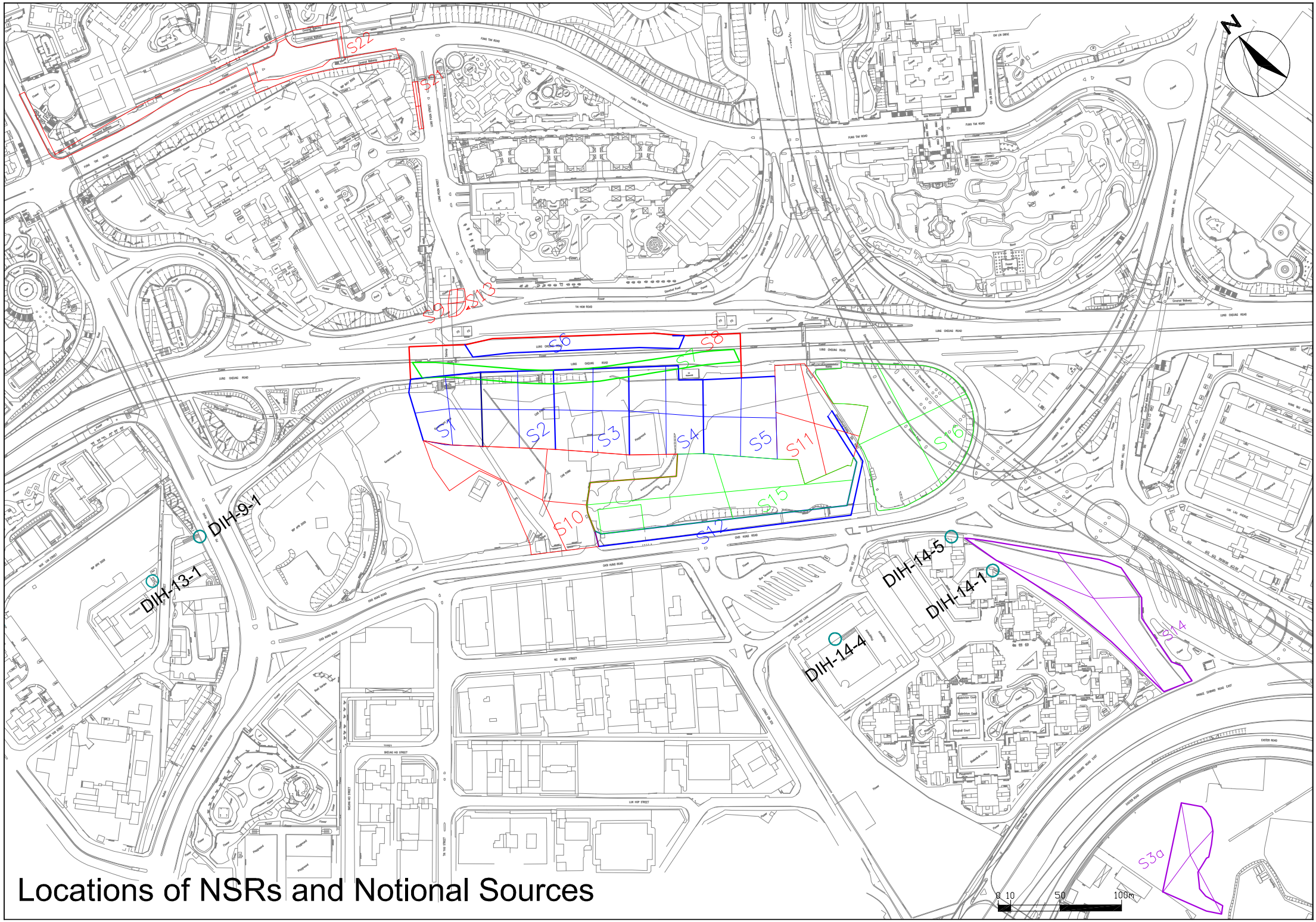
NSRs	Worksite																
	SCL Works Contract 1103 & 1106															SCL Works Contract 1107	
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11(2)	S12	S13	S15(3)	S16(3)	S3a(1)	S14
DIH-9-1	210	260				285	245	275	275	275			285				
DIH-13-1	265						295										
DIH-14-1				275	225		290				167	145		198	110	270	60
DIH-14-4			250	205	180	280	250	280		245	154	105		136	148		200
DIH-14-5			295	235	180	290	250	290			124	100		151	70		95

Note:

(1) Worksite S3a is under SCL Works Contract 1107 but not included in the approved SCL (HHS) EIA Report.

(2) Worksite S11 is re-delineated due to extended works area based on the latest information submitted under the SCL(TAW-HUH) EP and hence notional distances are updated accordingly.

(3) Worksites S15 & S16 are extended works areas based on the latest information submitted under the SCL(TAW-HUH) EP which are not included in the approved SCL (HHS) EIA Report.



Locations of NSRs and Notional Sources

Appendix E

Construction Noise Mitigation Measures Plan for Contract No. 1107 – Diamond Hill to Kai Tak Tunnels

MTR Corporation Limited

Shatin to Central Link – Tai Wai to Hung Hom Section and Mong Kok East to Hung Hom Section

Construction Noise Mitigation Measures Plan (CNMMP)

Works Contract 1107 – Diamond Hill to Kai Tak Tunnels

(June 2013)

Certified by: Dr. Priscilla Choy

Position: Environmental Team Leader

Date: 28th May 2013

Chun Wo - SELI Joint Venture

Shatin to Central Link – Contract 1107
Diamond Hill to Kai Tak Tunnels

Construction Noise Mitigation Measures Plan

(Version 1.3)

May 2013

Certified By	Dr. Priscilla Choy (Environmental Team Leader)

REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

CINOTECH accepts no responsibility for changes made to this report by third parties.

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1 INTRODUCTION

Background

1.1 The Shatin to Central Link – Tai Wai to Hung Hom Section (hereafter referred to as SCL (TAW-HUH)) is an approximately 11 km long extension of the Ma On Shan Line and links up with the West Rail Line at Hung Hom forming a strategic east-west rail corridor. It is a Designated Project under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO).

1.2 The Environmental Impact Assessment (EIA) Report of the SCL (TAW-HUH) (Register No. AEIAR-167/2012) and SCL – Stabling Sidings at Hung Hom Freight Yard (hereafter referred to as SCL (HHS)) (Register No. AEIAR-164/2012) were approved by the Environmental Protection Department (EPD) under the EIAO on 17 February 2012. An Environmental Permit (EP-438/2012) has been issued on 22 March 2012. The EP has been varied recently and a varied EP (EP-438/2012/C) was issued on 30 April 2013.

1.3 The construction of the SCL (TAW-HUH) and SCL (HHS) have been divided into a series of civil construction works contracts. This Works Contract 1107 covers the construction of running tunnel from Kai Tak (KAT) North to SCL Diamond Hill (DIH) Station which is under the approved SCL (HHS) EIA Report. This construction contract was awarded to Chun Wo - SELI Joint Venture (CSJV) in March 2013.

Purpose of this Construction Noise Mitigation Measures Plan

1.4 According to the Condition 2.9 of the EP-438/2012/C, to further reduce the air-borne construction noise impacts on the 19 noise sensitive receivers (NSRs) shown in Table 1 of the EP with exceedance after mitigation as predicted in the SCL (TAW-HUH) EIA Report (Register No. AEIAR-167/2012) and SCL (HHS) EIA Report (Register No. AEIAR-164/2012), the Permit Holder shall, no later than one month before the commencement of construction of the Project, submit to the Director of Environmental Protection (DEP) for approval four hard copies and one electronic copy of an updated Construction Noise Mitigation Measures Plan (CNMMP) and other initiatives proposed by the Permit Holder. The CNMMP shall include:

- a schedule of construction works to be carried out at the works areas of the Project within 300m from the NSRs;
- an updated construction methodology of the proposed construction works;
- an updated powered mechanical equipment (PME) list for the proposed construction works;
- an updated proposal of air–borne noise mitigation measures for the 19 NSRs as shown in Table 1 of this Permit, including the provision of noise barriers, enclosures and Indirect Technical Remedies;
- an updated prediction of noise levels in accordance with the above updated information and mitigation proposals in place.

1.5 Before submission to the DEP, the CNMMP will be certified by the Environmental Team (ET) Leader and verified by the Independent Environmental Checker (IEC) as conforming to the relevant information and recommendations contained in the approved SCL (TAW-HUH) EIA Report (Register No. AEIAR-167/2012) and

SCL(HHS) EIA Report (Register No. AEIAR-164/2012). All measures recommended in the approved CNMMP will be fully and properly implemented during construction.

1.6 Of the 19 NSRs with residual construction noise impacts identified in the Table 1 of EP-438/2012/C and required to be included in the CNMMP under the EP condition, 3 of them are relevant to Works Contract 1107. The locations of the NSRs covered in this CNMMP are shown in **Appendix C**.

1.7 This CNMMP is prepared to comply with the above-mentioned requirements.

2 DESCRIPTION OF CONSTRUCTION WORKS IN THE STUDY AREA

Noise Sensitive Receivers

2.1 The 300m study areas of the identified 3 NSRs with predicted residual construction noise impacts are shown in **Table 2.1**. The location of the 3 NSRs, the layout plan of worksites and their notional distance to works areas are depicted in **Appendix C**.

Table 2.1 NSRs with Predicted Residual Air-borne Construction Noise Impacts (Extracted from Table 1 of the EP)

NSR ID	NSR Description	Uses [1]	Criterion [2] dB(A)	Predicted Maximum Noise Level dB(A)	Predicted Residual Noise Impact dB(A)
DIH-14-1	Rhythm Garden Block 2	R	75	77	2
DIH-14-4	Canossa Primary School (San Po Kong)	E	70 (65) [2]	69 (68)	0(3) [3]
DIH-14-5	Rhythm Garden Block 1	R	75	78	3

Notes:

[1] R- Residential; E – Educational institution; W-Worship

[2] Values in parentheses indicate the noise criterion during examination period (typical examination period in May, June, November and December) of educational institution.

[3] Residual impact is only expected during the examination period (typical examination period in May, June, November and December) of the educational institution.

Construction Methodology

2.2 As mentioned in Section 1.3, the construction under this Works Contract is covered by SCL (HHS) EIA. The proposed construction methodology is generally following that presented in Section 3 of the approved SCL (HHS) EIA Report. The construction of tunnel from KAT to DIH will employ either cut-and-cover method or bored tunneling.

2.3 A breakdown of the major construction activities in sequence to be carried out within the contract are provided in **Appendix A**.

Updated Preliminary Construction Programme

2.4 The updated preliminary construction programme prepared by CSJV has been used in this CNMMP and has been presented on a monthly basis for the duration of the construction works in corresponding worksites. The construction schedule has been adjusted such that to minimise concurrent construction works to be carried out in the vicinity as far as practicable. The updated preliminary construction programme for this Works Contract 1107 is provided in **Appendix A**.

Updated Powered Mechanical Equipment List

2.5 The updated Powered Mechanical Equipment (PME) list for the construction works is provided in **Table 3.1**. The Sound Power Levels (SWL) for the PMEs have been

adopted from EPD's Technical Memorandum on Noise from Construction Work Other than Percussive Piling (GW-TM), list of SWLs of other commonly used PME[(1)] or British Standard BS 5228–1:2009[(2)]. It should be noted that the PMEs proposed are commonly available in the Hong Kong market. The PMEs to be adopted for individual construction activities under this Works Contract is included in **Appendix B**.

3 NOISE ASSESSMENT AND PROPOSED MITIGATION MEASURES

Assessment Methodology and Assumptions

3.1 The construction noise assessment has been carried out in accordance with the methodology used in the approved SCL (HHS) EIA Report (Register No. AEIAR-164/2012). Under this Works Contract 1107, 2 of the works areas (i.e. Worksite S3a and S14 as shown on **Appendix C**) are within 300m from the identified NSRs. Demarcation of the sub-works areas and notional source distances adopted in the calculation are shown on **Appendix C**.

3.2 The percentage on-time for each PME has been estimated individually for each construction activity to ensure practicality.

3.3 The CSJV has confirmed that the programme and plant inventory are reasonable and practicable for completing the Works Contract 1107 within the scheduled timeframe.

3.4 Mitigation measures and their effectiveness proposed in the SCL (HHS) EIA Report including the use of temporary movable noise barrier, acoustic mat and quiet plant have been considered in this CNMMP, as shown in **Table 3.1**. Details of proposed mitigation measures for this Works Contract are presented in **Appendix B**.

(1) "Sound power levels of other commonly used PME" prepared by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)
(2) British Standard BS 5228:2009, Part 1 - Noise and Vibration Control on Construction and Open Sites

Table 3.1 PME List with Proposed Mitigation Measures Adopted under Works Contract 1107

PME	TM Ref. /Other Ref.[3] /BS5228 Ref.[4]	SWL, dB(A)	Type of Noise Mitigation Measures	Noise Level Reduction, dB(A)
Breaker, excavator mounted (hydraulic)	CNP028	122	Barrier	-5
Breaker, mini-robot mounted	CNP031	115	Barrier	-5
Concrete lorry mixer	BS D6 23	100	-	-
Crane Mobile	CNP048	112	Barrier	-5
Drill rig, rotary type (diesel)	CNP072	110	Barrier	-5
Dump Truck with grab, 5.5tonne<gross vehicle = < 38tonne	CNP069	105	-	-
Excavator, mini-robot mounted (electric)	CNP082	94	Barrier	-5
Generator, silence, 75dB(A) at 7m	CNP102	100	Barrier	-5
Grout mixer	CNP105	90	Barrier	-5
Grout pump	CNP106	105	Barrier	-5
Lorry with Crane / Grab, 5.5tonne<gross vehicle = < 38tonne	CNP142	105	-	-
Piling, large diameter bored, oscillator	CNP165	115	Barrier	-5
Poker, vibratory, hand-held	BS D6 40	98	Barrier	-5
Power Rammer (Petrol)	CNP169	108	Barrier	-5
Water pump, submersible (electric)	CNP283	85	-	-

Proposed Mitigation Strategy and Noise Assessment Results

3.5 The air-borne construction noise impacts for the construction activities under Works Contract 1107 have been assessed and summarised in **Table 3.2**. The detailed assessment result is presented in **Appendix B**. The proposed mitigation measures described above are included in the assessment and, as such, only the mitigated scenario has been presented.

3.6 With the implementation of quiet plant, temporary movable noise barrier and acoustic mat for the PMEs, and scheduling of PMEs at worksite as far as possible, no exceedances of noise criteria at all the identified NSRs are predicted. Residual impact is therefore not expected to be anticipated.

[3] "Sound power levels of other commonly used PME" prepared by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)
[4] British Standard BS 5228:2009, Part 1 - Noise and Vibration Control on Construction and Open Sites

Table 3.2 Updated Mitigated Construction Noise Impact at Identified NSRs

NSR	Noise Criteria dB(A)(1)	SCL (TAW-HUH) EIA Prediction(2)		SCL (HHS) EIA Prediction(3)		CNMMP Prediction(4) (5)	
		Max Noise Level, dB(A)(6)	Exceedance Duration (Month)	Max Noise Level, dB(A)	Exceedance Duration (Month)	Max Noise Level, dB(A)(6)	Exceedance Duration (Month)
DIH-14-1	75	77	5	66	-	69	-
DIH-14-4	70 (65)	69 (68)	0 (3)	64	-	67 (65)	-
DIH-14-5	75	78	1	65	-	67	-

Notes:

(1) Values in parentheses indicate the noise criterion during examination period (typical examination period in May, June, November and December) of educational institution

(2) Extracted from Table 8.15 of SCL (TAW-HUH) EIA – Residual Impacts at Noise Sensitive Receivers

(3) Extracted from Table 8.13 of SCL (HHS) EIA – Predicted Maximum Mitigated Construction Noise Levels at Noise Sensitive Receivers

(4) Cumulative impact arisen from other SCL(TAW-HUH) contracts near SCL Works Contract 1107 is considered.

(5) Cumulative impact arisen from Tsz Wan Shan Pedestrian Link is not anticipated given the separation distance of >300m between the works sites and NSRs.

(6) Values in parentheses indicate the maximum predicted noise level during examination period (typical examination period in May, June, November and December) of educational institution. The examination period of Canossa Primary School (San Po Kong) [DIH-14-4] is subject to school's activity schedules when available.

4 CONCLUSION

4.1 With the implementation of the proposed noise mitigation measures, updated construction programme and PME list, construction noise impacts at all identified NSRs would comply with the noise criterion of 75 dB(A) for residential premises and 70/65 dB(A) for educational institutions during normal or examination period respectively.

4.2 Where necessary, further review and update will be performed during the construction phase and liaison with affected parties is recommended to minimise the construction noise impacts as far as practicable.

APPENDIX A –
Updated Preliminary Construction Programme of Works Contract 1107

Appendix A :SCL Contract 1107 - Preliminary Construction Programme

No.	Activity Description	2012		2013												2014												2015												2016												2017											
		11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
	Daytime Period																																																																	
	Worksite S3a																																																																	
1	Removal of abandoned piles												X	X	X	X	X	X	X																																															
2	Ground Treatment of Cross Passage																				X	X	X																																										
	Worksite S14																																																																	
3	Diversion & Replacement of watermains - Demolition												X	X	X																																																		
4	Diversion & Replacement of watermains - Constrcution															X	X	X	X																																														
5	Ground Treatment of Cross Passage																									X	X	X	X																																					

Remark:

X - indicates construction works in progress

APPENDIX B –
Proposed Mitigation Measures and Detailed Noise Assessment

Appendix B1 : SCL Contract 1107 - Diamond Hill to Kai Tak Tunnels
Construction Plant Inventory (With Mitigation)

Area: Worksite S3a

No.	Activities	Name of PME (TM Ref./Other Ref.[1])	No. of PME	On Time %	Unit SWL, dB(A)	SWL, dB(A)	Type of Noise Control[3]	Noise Reduction	Total SWL, dB(A) [2]
1	Removal of abandoned piles	Crane Mobile (CNP048)	1	50	112	109	Barrier	-5	**115**
		Drill rig, rotary type (diesel) (CNP072)	1	70	110	108	Barrier	-5	
		Piling, large diameter bored, oscillator (CNP165)	1	40	115	111	Barrier	-5	
		Breaker, excavator mounted (hydraulic) (CNP028)	1	50	122	119	Barrier	-5	
2	Ground Treatment of Cross Passage	Drill rig, rotary type (diesel) (CNP072)	1	70	110	108	Barrier	-5	**109**
		Grout pump (CNP106)	2	100	105	108			
		Grout mixer (CNP105)	4	40	90	92			

Note:
[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/)

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(HHS) EIA Report (Register No. AEIAR-164/2012)
Enclosure for movable plant : -5dB(A)
Enclosure for relatively static plant : -10dB(A)
Barrier for movable plant : -5 dB(A)
Barrier for relatively static plant : -10dB(A)
Acoustic mat : -10dB(A)

Appendix B1 : SCL Contract 1107 - Diamond Hill to Kai Tak Tunnels
Construction Plant Inventory (With Mitigation)

Area: Worksite S14

No.	Activities	Name of PME (TM Ref./Other Ref.[1])	No. of PME	On Time %	Unit SWL, dB(A)	SWL, dB(A)	Type of Noise Control[3]	Noise Reduction	Total SWL, dB(A) [2]
3	Diversion & Replacement of watermains - Demolition	Breaker, mini-robot mounted (CNP031)	1	40	115	111	Barrier	-5	**108**
		Dump Truck with grab, 5.5tonne<gross vehicle = < 38tonne (CNP069)	1	35	105	100			
		Generator, silence, 75dB(A) at 7m (CNP102)	1	35	100	95			
		Lorry with Crane / Grab, 5.5tonne<gross vehicle = < 38tonne(CNP142)	1	35	105	100			
		Water pump, submersible (electric) (CNP283)	2	50	85	85			
4	Diversion & Replacement of watermains - Constrcution	Excavator, mini-robot mounted (electric) (CNP082)	1	40	94	90	Barrier	-5	**101**
		Generator, silence, 75dB(A) at 7m (CNP102)	1	50	100	97	Barrier	-5	
		Concrete lorry mixer (BS D6 23)	1	35	100	95	Barrier	-5	
		Poker, vibratory, hand-held (BS D6 40)	1	35	98	93	Barrier	-5	
		Power Rammer (Petrol) (CNP169)	1	35	108	103	Barrier	-5	
		Water pump, submersible (electric) (CNP283)	5	50	85	89			
5	Ground Treatment of Cross Passage	Drill rig, rotary type (diesel) (CNP072)	1	50	110	107	Barrier	-5	**103**
		Grout pump (CNP106)	2	30	105	103	Barrier	-5	
		Grout mixer (CNP105)	4	35	90	91	Barrier	-5	

Note:
[1] BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
Other Ref. - SWLs refer to other PME documented by the Noise Control Authority (EPD/PME/no.)
(http://www.epd.gov.hk/epd/english/application_for_licences/)

[2] The figures are rounded-up to a whole number.

[3] With reference to the approved SCL(HHS) EIA Report (Register No. AEIAR-164/2012)
Enclosure for movable plant : -5dB(A)
Enclosure for relatively static plant : -10dB(A)
Barrier for movable plant : -5 dB(A)
Barrier for relatively static plant : -10dB(A)
Acoustic mat : -10dB(A)

Appendix B2 :Noise Contribution from Works Contract 1107

No.	Activity Description	2012		2013												2014												2015												2016												2017											
		11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
	Daytime Period																																																																	
	Worksite S3a																																																																	
1	Removal of abandoned piles												115	115	115	115	115	115	115																																															
2	Ground Treatment of Cross Passage																				109	109	109																																										
	Total SWL from Worksite S3a												115	115	115	115	115	115	115		109	109	109																																										
	Worksite S14																																																																	
3	Diversion & Replacement of watermains - Demolition												108	108	108																																																		
4	Diversion & Replacement of watermains - Constrcution															101	101	101	101																																														
5	Ground Treatment of Cross Passage																									103	103	103	103																																				
	Total SWL from Worksite S14												108	108	108	101	101	101	101							103	103	103	103																																				

Remark:

X - indicates construction works in progress

Appendix B3 :Noise Contribution from Concurrent Works

Table B3.1 - Noise Contribution from other works area under SCL Works Contract 1103 (The figures are extracted from the latest CNMMP of Works Contract 1103)

Works Area/Total SWL (dB(A))	2012		2013												2014												2015												2016												2017											
	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Worksite S1	110	110	110	111	111	111	111	111	111	111	111	111	111	111	111	109	109	108	108	100	100	100	100	100	100	100	0	0	109	109	0	0	0	0	0	0	0	112	112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S2	110	110	110	111	111	111	111	111	111	111	111	111	111	111	111	109	109	108	108	100	100	100	100	100	100	100	0	0	109	109	0	0	0	0	0	0	0	112	112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S10	110	110	110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table B3.2 - Noise Contribution from other works area under SCL Works Contract 1106 (The figures are extracted from the latest CNMMP of Works Contract 1106)

Works Area/Total SWL (dB(A))	2012		2013												2014												2015												2016												2017											
	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Worksite S1									104	104	104	112	112	113	106	106	111	111	106	106	106	101			104	106	112	112		108	108		104	104	104	104	104	104	104	104	104	105	105	105	105	110	108	108	108	108	105	105										
Worksite S2																														104	104	104	104	104	107	107	107	107	107	107	108	108	108	108	108	104																
Worksite S3		111	111	111	104	104	104	104	104	104	104	104	104				108	113	108	108	108	108	108	110	106	106	106	106	109	109	109	109	109	109	106	106	106	106	106		98	98	98	98	98	98																
Worksite S4		111	111	111	104	104	104	104	104	112	104	104	104	109	108	105	105	105	105	105	109	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107					98	98	98	98	98	98															
Worksite S5		111	111	111					104	104	104	106	108	109	108	108	108	108	108	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	98	98	98	98	98	98															
Worksite S6																115	115	115		111	111	111				111	111	111	111									106	106	112																								
Worksite S7																114	114	114		111	111	111	109	109	109	113	113	113	113	109	109	109	109	109	109	109	109	111	106	112																								
Worksite S8											110	110	110	110	103	103	103	105	105	105	106	106	106		86			86		104	104	104	107	107	107	108	108	108		104	104	104	108	109	110	112	111	111	108												
Worksite S9																				104	104							100	100	100	99	103	100	100	107	111	109	103	107	107	107																					
Worksite S11						103	107	104	106	106	106	106	106	106	106	106	106	106	106	106	106	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97												
Worksite S12																																																				108	108	108	108	108	108					
Worksite S13																		104	104	104																																								
Worksite S15					103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103												
Worksite S16			104	104																																															106	106	106	106	106							

Remark:

Cumulative impact arisen from MTR SCL Works Contract 1114 - Pedestrian Link at Tsz Wan Shan is not anticipated given the separation distance of >300m between the works sites and NSRs.

Appendix B4 : Accumulated Noise Contribution from each Worksite

Table B4 - Accumlated Noise Contribution from Works Contract 1107 + Works Contract 1103 + Works Contract 1106

Works Area/Total SWL (dB(A))	2012		2013												2014												2015												2016												2017											
	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Worksite S1	110	110	110	111	111	111	111	111	112	112	112	115	115	115	112	111	113	113	110	107	107	104	100	100	106	107	112	112	109	111	108	0	104	104	104	104	104	113	113	104	104	105	105	105	105	110	108	108	108	108	105	105	0	0	0	0	0	0	0	0	0	0
Worksite S2	110	110	110	111	111	111	111	111	111	111	111	111	111	111	111	109	109	108	108	100	100	100	100	100	100	100	0	0	109	110	104	104	104	104	107	107	107	113	113	107	107	108	108	108	108	108	104	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S3	0	111	111	111	104	104	104	104	104	104	104	104	104	0	0	0	108	113	108	108	108	108	108	110	106	106	106	106	109	109	109	109	109	109	106	106	106	106	106	0	98	98	98	98	98	98	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S3a	0	0	0	0	0	0	0	0	0	0	0	115	115	115	115	115	115	115	0	109	109	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S4	0	111	111	111	104	104	104	104	104	112	104	104	104	109	108	105	105	105	105	105	109	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	0	0	0	0	98	98	98	98	98	98	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S5	0	111	111	111	0	0	0	0	104	104	104	106	108	109	108	108	108	108	108	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	98	98	98	98	98	98	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	115	115	115	0	111	111	111	0	0	0	111	111	111	111	0	0	0	0	0	0	0	0	106	106	112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	114	114	114	0	111	111	111	109	109	109	113	113	113	113	109	109	109	109	109	109	109	109	111	106	112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S8	0	0	0	0	0	0	0	0	0	0	110	110	110	110	103	103	103	105	105	105	106	106	106	0	86	0	0	86	0	104	104	104	107	107	107	108	108	108	0	104	104	104	108	109	110	112	111	111	108	0	0	0	0	0	0	0	0	0	0	0
Worksite S9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	104	104	0	0	0	0	0	0	100	100	100	99	103	100	100	107	111	109	103	107	107	107	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S10	110	110	110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S11	0	0	0	0	0	103	107	104	106	106	106	106	106	106	106	106	106	106	106	106	106	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	0	0	0	0	0	0	0	0	0	0
Worksite S12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	108	108	108	108	108	108	0	0	0	0	0
Worksite S13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	104	104	104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S14	0	0	0	0	0	0	0	0	0	0	0	108	108	108	101	101	101	101	0	0	0	0	0	0	103	103	103	103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worksite S15	0	0	0	0	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	0	0	0	0	0	0	0	0	0	0
Worksite S16	0	0	104	104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	106	106	106	106	106	0	0	0	0	0

Appendix B5 :Accumulated Noise Level on NSRs

Predicted Construction Noise Level dB(A) — 2012 to 2013

NSR ID	NSR Description	Distance, m *[3]*	Corr. for Distance, dB (A) *[1] [2]*	Facade Correction, dB(A)	Total Correction, dB(A)	2012		2013											
						11	12	1	2	3	4	5	6	7	8	9	10	11	12
DIH 14-1	**Rhythm Garden Block 2**																		
	Worksite S1																		
	Worksite S2																		
	Worksite S3																		
	Worksite S3a	270	-56.6	3	-53.6	0	0	0	0	0	0	0	0	0	0	0	62	62	62
	Worksite S4	275	-56.8	3	-53.8	0	57	57	57	50	50	50	50	50	58	50	50	50	55
	Worksite S5	225	-55.0	3	-52.0	0	58	58	58	0	0	0	0	52	52	52	54	56	57
	Worksite S6																		
	Worksite S7	290	-57.2	3	-54.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S8																		
	Worksite S9																		
	Worksite S10																		
	Worksite S11	167	-52.4	3	-49.4	0	0	0	0	0	54	57	55	57	57	57	57	57	57
	Worksite S12	145	-51.2	3	-48.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S13																		
	Worksite S14	60	-43.5	3	-40.5	0	0	0	0	0	0	0	0	0	0	0	68	68	68
	Worksite S15	198	-53.9	3	-50.9	0	0	0	0	52	52	52	52	52	52	52	52	52	52
	Worksite S16	110	-48.8	3	-45.8	0	0	58	58	0	0	0	0	0	0	0	0	0	0
	Predicted Noise Level at NSR (dB(A))					**0**	**61**	**63**	**63**	**54**	**57**	**59**	**57**	**60**	**62**	**60**	**69**	**69**	**69**
DIH 14-4	**Canossa Primary School (San Po Kong)**																		
	Worksite S1																		
	Worksite S2																		
	Worksite S3	250	-55.9	3	-52.9	0	58	58	58	51	51	51	51	51	51	51	51	51	0
	Worksite S3a																		
	Worksite S4	205	-54.2	3	-51.2	0	59	59	59	53	53	53	53	53	61	53	53	53	58
	Worksite S5	180	-53.1	3	-50.1	0	60	60	60	0	0	0	0	54	54	54	55	58	59
	Worksite S6	280	-56.9	3	-53.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S7	250	-55.9	3	-52.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S8	280	-56.9	3	-53.9	0	0	0	0	0	0	0	0	0	0	56	56	56	56
	Worksite S9																		
	Worksite S10	245	-55.8	3	-52.8	57	57	57	0	0	0	0	0	0	0	0	0	0	0
	Worksite S11	154	-51.7	3	-48.7	0	0	0	0	0	54	58	55	58	58	58	58	58	58
	Worksite S12	105	-48.4	3	-45.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S13																		
	Worksite S14	200	-54.0	3	-51.0	0	0	0	0	0	0	0	0	0	0	0	57	57	57
	Worksite S15	136	-50.7	3	-47.7	0	0	0	0	55	55	55	55	55	55	55	55	55	55
	Worksite S16	148	-51.4	3	-48.4	0	0	56	56	0	0	0	0	0	0	0	0	0	0
	Predicted Noise Level at NSR (dB(A))					**57**	**65**	**65**	**65**	**58**	**60**	**61**	**60**	**62**	**64**	**63**	**64**	**64**	**65**
DIH 14-5	**Rhythm Garden Block 1**																		
	Worksite S1																		
	Worksite S2																		
	Worksite S3	295	-57.4	3	-54.4	0	56	56	56	49	49	49	49	49	49	49	49	49	0
	Worksite S3a																		
	Worksite S4	235	-55.4	3	-52.4	0	58	58	58	51	51	51	51	51	60	51	51	51	57
	Worksite S5	180	-53.1	3	-50.1	0	60	60	60	0	0	0	0	54	54	54	55	58	59
	Worksite S6	290	-57.2	3	-54.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S7	250	-55.9	3	-52.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S8	290	-57.2	3	-54.2	0	0	0	0	0	0	0	0	0	0	56	56	56	56
	Worksite S9																		
	Worksite S10																		
	Worksite S11	124	-49.9	3	-46.9	0	0	0	0	0	56	60	57	59	59	59	59	59	59
	Worksite S12	100	-48.0	3	-45.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S13																		
	Worksite S14	95	-47.5	3	-44.5	0	0	0	0	0	0	0	0	0	0	0	64	64	64
	Worksite S15	151	-51.6	3	-48.6	0	0	0	0	54	54	54	54	54	54	54	54	54	54
	Worksite S16	70	-44.9	3	-41.9	0	0	62	62	0	0	0	0	0	0	0	0	0	0
	Predicted Noise Level at NSR (dB(A))					**0**	**63**	**66**	**66**	**57**	**60**	**62**	**60**	**62**	**64**	**63**	**66**	**67**	**67**

Predicted Construction Noise Level dB(A) — 2014 to 2015

NSR ID	NSR Description	2014												2015											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
DIH 14-1	**Rhythm Garden Block 2**																								
	Worksite S1																								
	Worksite S2																								
	Worksite S3																								
	Worksite S3a	62	62	62	62	0	56	56	56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S4	54	51	51	51	51	51	55	53	53	53	53	53	53	53	53	53	53	53	53	53	53	0	0	0
	Worksite S5	56	56	56	56	56	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
	Worksite S6																								
	Worksite S7	0	60	60	60	0	57	57	57	55	55	55	59	59	59	59	55	55	55	55	55	55	55	55	57
	Worksite S8																								
	Worksite S9																								
	Worksite S10																								
	Worksite S11	57	57	57	57	57	57	57	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Worksite S12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S13																								
	Worksite S14	60	60	60	60	0	0	0	0	0	0	63	63	63	63	0	0	0	0	0	0	0	0	0	0
	Worksite S15	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52
	Worksite S16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Predicted Noise Level at NSR (dB(A))	**66**	**67**	**67**	**67**	**61**	**63**	**63**	**62**	**60**	**60**	**65**	**65**	**65**	**65**	**62**	**60**	**60**	**60**	**60**	**60**	**60**	**59**	**59**	**60**
DIH 14-4	**Canossa Primary School (San Po Kong)**																								
	Worksite S1																								
	Worksite S2																								
	Worksite S3	0	0	55	60	55	55	55	55	55	57	53	53	53	53	56	56	56	56	56	56	53	53	53	53
	Worksite S3a																								
	Worksite S4	56	53	53	53	53	53	58	55	55	55	55	55	55	55	55	55	55	55	55	55	55	0	0	0
	Worksite S5	58	58	58	58	58	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56
	Worksite S6	0	61	61	61	0	57	57	57	0	0	0	57	57	57	57	0	0	0	0	0	0	0	0	52
	Worksite S7	0	61	61	61	0	58	58	58	56	56	56	60	60	60	60	56	56	56	56	56	56	56	56	58
	Worksite S8	49	49	49	51	51	51	52	52	52	0	32	0	0	32	0	50	50	50	54	54	54	54	54	54
	Worksite S9																								
	Worksite S10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S11	58	58	58	58	58	58	58	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
	Worksite S12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S13																								
	Worksite S14	50	50	50	50	0	0	0	0	0	0	52	52	52	52	0	0	0	0	0	0	0	0	0	0
	Worksite S15	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55
	Worksite S16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Predicted Noise Level at NSR (dB(A))	**63**	**66**	**67**	**67**	**63**	**65**	**65**	**64**	**63**	**63**	**63**	**65**	**65**	**65**	**65**	**63**	**63**	**63**	**63**	**63**	**63**	**62**	**62**	**63**
DIH 14-5	**Rhythm Garden Block 1**																								
	Worksite S1																								
	Worksite S2																								
	Worksite S3	0	0	53	59	53	53	53	53	53	56	52	52	52	52	55	55	55	55	55	55	52	52	52	52
	Worksite S3a																								
	Worksite S4	55	52	52	52	52	52	56	54	54	54	54	54	54	54	54	54	54	54	54	54	54	0	0	0
	Worksite S5	58	58	58	58	58	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56
	Worksite S6	0	61	61	61	0	57	57	57	0	0	0	57	57	57	57	0	0	0	0	0	0	0	0	52
	Worksite S7	0	61	61	61	0	58	58	58	56	56	56	60	60	60	60	56	56	56	56	56	56	56	56	58
	Worksite S8	49	49	49	50	50	50	52	52	52	0	32	0	0	32	0	50	50	50	53	53	53	54	54	54
	Worksite S9																								
	Worksite S10																								
	Worksite S11	59	59	59	59	59	59	59	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Worksite S12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Worksite S13																								
	Worksite S14	56	56	56	56	0	0	0	0	0	0	59	59	59	59	0	0	0	0	0	0	0	0	0	0
	Worksite S15	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
	Worksite S16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Predicted Noise Level at NSR (dB(A))	**64**	**67**	**67**	**67**	**63**	**65**	**65**	**64**	**63**	**63**	**64**	**66**	**66**	**66**	**65**	**63**	**63**	**63**	**63**	**63**	**63**	**62**	**62**	**63**

Predicted Construction Noise Level dB(A) — 2016 to 2017

NSR ID	NSR Description	2016												2017												Max. CNL, dB(A)
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	
DIH 14-1	**Rhythm Garden Block 2**																									
	Worksite S1																									
	Worksite S2																									
	Worksite S3																									
	Worksite S3a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S4	0	0	45	45	45	45	45	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S5	54	54	46	46	46	46	46	46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S6																									
	Worksite S7	52	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S8																									
	Worksite S9																									
	Worksite S10																									
	Worksite S11	47	47	47	47	47	47	47	47	47	47	47	47	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S12	0	0	0	0	0	0	0	0	0	0	0	0	0	60	60	60	60	60	60	0	0	0	0	0	
	Worksite S13																									
	Worksite S14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S15	52	52	52	52	52	52	52	52	52	52	52	52	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S16	0	0	0	0	0	0	0	0	0	0	0	0	60	60	60	60	60	0	0	0	0	0	0	0	
	Predicted Noise Level at NSR (dB(A))	**58**	**61**	**54**	**54**	**54**	**54**	**54**	**54**	**53**	**53**	**53**	**53**	**60**	**63**	**63**	**63**	**63**	**60**	**60**	**0**	**0**	**0**	**0**	**0**	**69**
DIH 14-4	**Canossa Primary School (San Po Kong)**																									
	Worksite S1																									
	Worksite S2																									
	Worksite S3	53	0	45	45	45	45	45	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S3a																									
	Worksite S4	0	0	47	47	47	47	47	47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S5	56	56	48	48	48	48	48	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S6	52	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S7	53	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S8	0	50	50	50	54	55	56	58	57	57	54	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S9																									
	Worksite S10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S11	48	48	48	48	48	48	48	48	48	48	48	48	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S12	0	0	0	0	0	0	0	0	0	0	0	0	0	62	62	62	62	62	62	0	0	0	0	0	
	Worksite S13																									
	Worksite S14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S15	55	55	55	55	55	55	55	55	55	55	55	55	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S16	0	0	0	0	0	0	0	0	0	0	0	0	58	58	58	58	58	0	0	0	0	0	0	0	
	Predicted Noise Level at NSR (dB(A))	**62**	**64**	**58**	**58**	**59**	**59**	**60**	**61**	**60**	**60**	**58**	**56**	**58**	**64**	**64**	**64**	**64**	**62**	**62**	**0**	**0**	**0**	**0**	**0**	**67**
DIH 14-5	**Rhythm Garden Block 1**																									
	Worksite S1																									
	Worksite S2																									
	Worksite S3	52	0	44	44	44	44	44	44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S3a																									
	Worksite S4	0	0	46	46	46	46	46	46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S5	56	56	48	48	48	48	48	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S6	52	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S7	53	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S8	0	50	50	50	53	54	56	58	57	57	54	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S9																									
	Worksite S10																									
	Worksite S11	50	50	50	50	50	50	50	50	50	50	50	50	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S12	0	0	0	0	0	0	0	0	0	0	0	0	0	63	63	63	63	63	63	0	0	0	0	0	
	Worksite S13																									
	Worksite S14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S15	54	54	54	54	54	54	54	54	54	54	54	54	0	0	0	0	0	0	0	0	0	0	0	0	
	Worksite S16	0	0	0	0	0	0	0	0	0	0	0	0	64	64	64	64	64	0	0	0	0	0	0	0	
	Predicted Noise Level at NSR (dB(A))	**61**	**64**	**58**	**58**	**59**	**59**	**59**	**60**	**59**	**59**	**58**	**56**	**64**	**67**	**67**	**67**	**67**	**63**	**63**	**0**	**0**	**0**	**0**	**0**	**67**

Appendix B6 :SCL Contract 1107 - Summary of Predicted Accumulated Noise Levels from Construction at NSRs

NSR Location [NSR ID]	EIAO-TM Noise Criteria, dB (A)*	2012		2013												2014												2015												2016												2017											
		11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Rhythm Garden Block 2 [DIH-14-1]	75	0	61	63	63	54	57	59	57	60	62	60	69	69	69	66	67	67	67	61	63	63	62	60	60	65	65	65	65	62	60	60	60	60	60	60	59	59	60	58	61	54	54	54	54	54	54	53	53	53	53	60	63	63	63	63	60	60	0	0	0	0	0
Canossa Primary School (San Po Kong) [DIH-14-4]	70 (65)	57	65	65	65	58	60	61	60	62	64	63	64	64	65	63	66	67	67	63	65	65	64	63	63	63	65	65	65	65	63	63	63	63	63	63	62	62	63	62	64	58	58	59	59	60	61	60	60	58	56	58	64	64	64	64	62	62	0	0	0	0	0
Rhythm Garden Block 1 [DIH-14-5]	75	0	63	66	66	57	60	62	60	62	64	63	66	67	67	64	67	67	67	63	65	65	64	63	63	64	66	66	66	65	63	63	63	63	63	63	62	62	63	61	64	58	58	59	59	59	60	59	59	58	56	64	67	67	67	67	63	63	0	0	0	0	0

Remarks:

* Number in parentheses indicates noise criterion during the examination period (typical examination period in May, June, November and December) of the educational institution. The examination period of Canossa Primary School (San Po Kong) [DIH-14-4] is subject to school's activity schedules when ava

APPENDIX C –
Location and Notional Distance from Works Areas of NSRs

Appendix C –Location and Notional Distance from Works Areas of NSRs

Notional Distance from Construction Sites to NSRs (in meter)

[Extracted from Appendix 8.10H of approved SCL (HHS) EIA Report except for Worksites S3a, S11, S15 & S16]

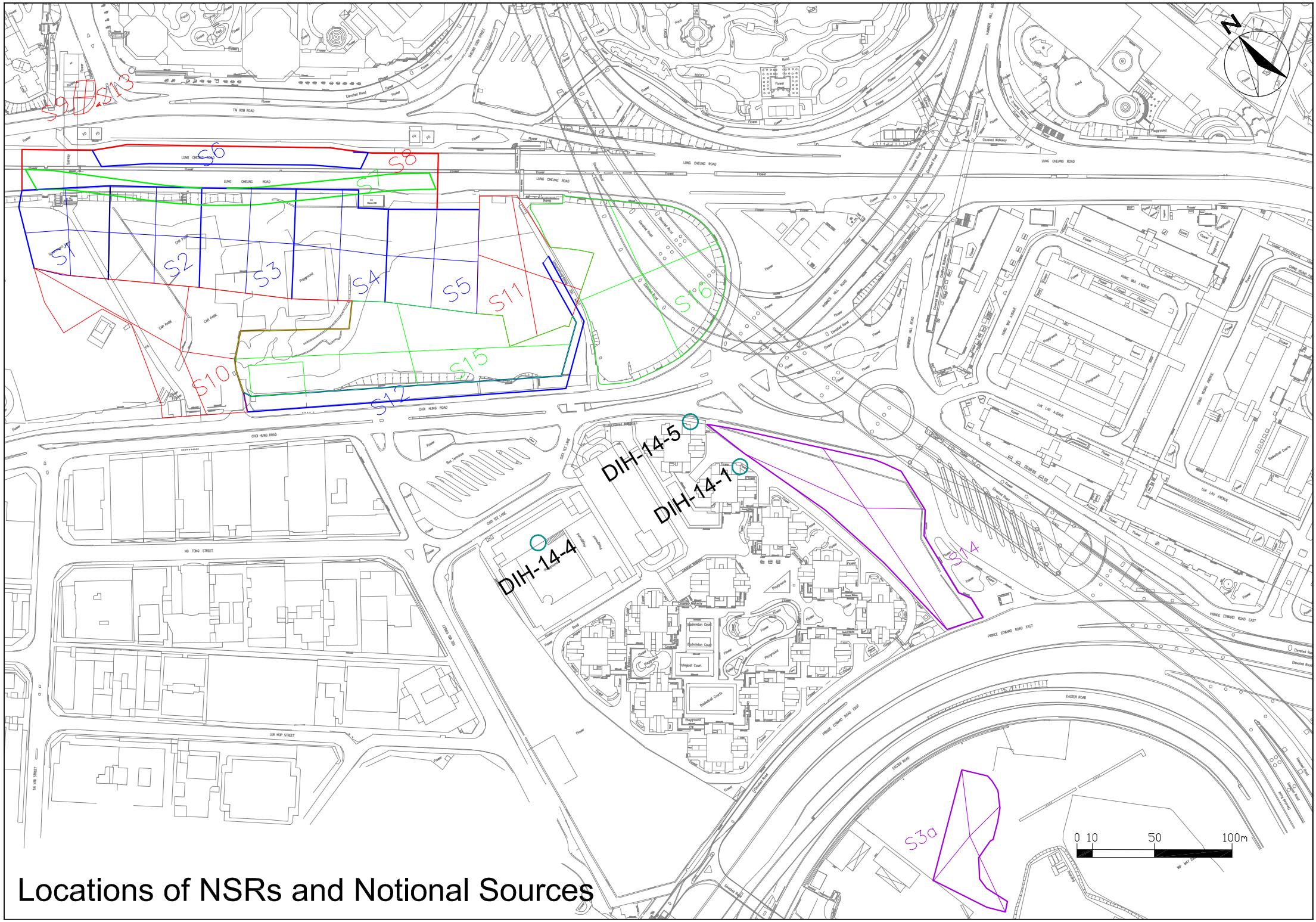
NSRs	Worksite																
	SCL Works Contract 1107		SCL Works Contract 1103 & 1106														
	S3a(1)	S14	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11(2)	S12	S13	S15(3)	S16(3)
DIH-9-1			210	260				285	245	275	275	275			285		
DIH-13-1			265						295								
DIH-14-1	270	60				275	225		290				167	145		198	110
DIH-14-4		200			250	205	180	280	250	280		245	154	105		136	148
DIH-14-5		95			295	235	180	290	250	290			124	100		151	70

Note:

(1) Worksite S3a is under SCL Works Contract 1107 but not included in the approved SCL (HHS) EIA Report.

(2) Worksite S11 is re-delineated due to extended works under VEP application and hence notional distances are changed approved SCL (HHS) EIA Report.

(3) Worksites S15 & S16 are extended works areas under VEP application which are not included in the approved SCL (HHS) EIA Report.



Locations of NSRs and Notional Sources

Appendix F

Construction Noise Mitigation Measures Plan for Contract No. 1112 – Hung Hom Station and Stabling Sidings

MTR Corporation Limited

Shatin to Central Link
Tai Wai to Hung Hom Section
and
Mong Kok East to Hung Hom Section

Construction Noise Mitigation Measures Plan (CNMMP)

Works Contract 1112
Hung Hom Station and Stabling Sidings

(June 2013)

Verified by: Vivian Chan

Position: Environmental Team Leader

Date: 10 June 2013

Construction Noise Mitigation Measures Plan

Shatin to Central Link – Works Contract 1112 Hung Hom Station and Stabling Sidings

May 2013

AUSTRALIA | ASIA | MIDDLE EAST | AFRICA | PACIFIC

Project/Deliverable No.	70761587 | D01/01
Project Name	Shatin to Central Link – Works Contract 1112 Hung Hom Station and Stabling Sidings
Report Name	Construction Noise Mitigation Measures Plan
Report Date	May 2013
Report for	Leighton Contractors (Asia) Limited

PREPARATION, REVIEW AND AUTHORISATION

Revision #	Date	Prepared by	Reviewed by	Approved by
1.0 (Draft)	Apr 2013	Winnie MA	Vivian CHAN	Alexi BHANJA
1.2 (Final)	Apr 2013	Winnie MA	Vivian CHAN	Alexi BHANJA
1.3 (Final)	Apr 2013	Winnie MA	Vivian CHAN	Alexi BHANJA
1.4 (Final)	May 2013	Winnie MA	Vivian CHAN	Alexi BHANJA
1.5 (Final)	May 2013	Winnie MA	Vivian CHAN	Alexi BHANJA

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1 INTRODUCTION

1.1 Project Description

1.1.1 The Shatin to Central Link (SCL) is one of the ten large-scale infrastructure projects announced by the Chief Executive in his 2007-2008 Policy Address. MTR Corporation Limited has been entrusted to plan and design for this project.

1.1.2 SCL is a designated project (DP) under the Environmental Impact Assessment Ordinance (EIAO). For the purposes of the Environmental Impact Assessment (EIA), five EIA studies have been conducted to cover different sections of the SCL. These are Tai Wai to Hung Hom Section (SCL (TAW-HUH)), Mong Kok East to Hung Hom Section (SCL (MKK-HUH)), Hung Hom to Admiralty Section (SCL (HUH-ADM)), Protection Works at Causeway Bay Typhoon Shelter and Stabling Sidings at Hung Hom Freight Yard (SCL (HHS)).

1.1.3 Three EIA reports are of relevance to Works Contract 1112, namely EIA for SCL (TAW-HUH) (Register No. AEIAR-167/2012), EIA for SCL (MKK-HUH) (Register No. AEIAR-165/2012)and EIA for SCL (HHS) (Register No. AEIAR-164/2012). These were submitted and subsequently approved with conditions by the Environmental Protection Department (EPD) on 17 February 2012. Two Environmental Permits (EPs), Environmental Permit No. EP-437/2012 for SCL (MKK-HUH) and Environmental Permit No. EP-438/2012 for SCL (TAW-HUH) were subsequently obtained in March 2012. A recent application for variation of the EP for SCL (TAW-HUH) was approved and a varied EP (EP-438/2012/C) was issued on 30 April 2013.

1.1.4 Construction of the SCL has been divided into a number of works contracts. This Works Contract 1112 was awarded to Leighton Contractors (Asia) Limited (the Contractor) in March 2013. Leighton has engaged SMEC Asia Limited as the Environmental Team under the EIAO for Works Contract 1112.

1.1.5 The works under Works Contract 1112 comprise permanent works and the necessary temporary works for Hung Hom Station (HUH), Hung Hom Sidings (HHS), the South Approach Tunnels (SAT) and the North Approach Tunnels (NAT) to the new station, HHS and any reprovisioning remedial and improvement works (RRIW). The major permanent works under Works Contract 1112 generally comprise the following:

- New HUH integrated with the existing HUH station, with associated entrances, ventilation facilities, plant rooms, other ancillary facilities, and ABWF works.
- Modification of the existing HUH station to allow interchange between EAL and EWL of SCL, and between NSL and EWL comprising alteration and addition works at podium level, mid-level, and platform level.
- Running tunnels of the EWL at the south and north ends of the new HUH to the existing stub tunnel of WRL and interface with Works Contract 1111.
- Running tunnels of the NSL at the south and north ends of the new HUH to the proposed North Ventilation Building and interface with Works Contract 1111.
- Extensive underpinning and modification of the existing podium structure of HUH and the Hong Kong Coliseum, and associated protection works.

- Diversion, modification and dismantling of existing building services associated with underpinning and modification of existing structures.
- Demolition and clearance of the majority of the existing Hung Hom Freight Terminal infrastructure.
- Protection, diversion, and modification of utilities and services.
- Launching and retrieval track connecting the EWL to HHS from the turnout close to WRL at the south and interface with Works Contract 1111 at the north.
- CLP Transformer Building.
- Demolition of the existing International Mail Centre adjacent to Salisbury Road, the MTR Freight Operations Building within the southern end of the Hung Hom Freight Terminal, and other ancillary buildings.
- Reconstruction of Cheong Wan Road Viaduct.
- Civil, BS and ABWF provisions for designated and interfacing contracts.
- Landscape works.
- Modification to various parts of existing disused Freight Yard structure for provision of HHS, comprising alteration and addition works at underground level, ground level, mezzanine level and podium level including new accommodation and plant areas and stablings and associated track provisions connecting to the interface with Works Contract 1111.
- Extensive underpinning of the podium structures above the existing disused Freight Yard for provision of HHS and its associated works.
- Construct part of the shunting track.
- Construct the emergency track and its associated works which connect the stabling siding to the mainline which run parallel with the northern approach of HUH.
- Construct the semi-enclosed noise enclosure and its associated works over the entire HHS north fan area.

1.1.6 To further reduce the airborne construction noise impacts on those Noise Sensitive Receivers (NSRs) predicted in the EIA Report to be subject to noise exceedance after mitigation, Condition 2.7 of Environmental Permit No. EP-437/2012 for SCL (MKK-HUH) and Condition 2.9 of Environmental Permit No. EP-438/2012/C for SCL (TAW-HUH) requires the Permit Holder to submit to the Director for approval an updated Construction Noise Mitigation Measures Plan (CNMMP) and other initiatives proposed by the Permit Holder.

1.1.7 The plan shall include:

(a) A schedule of construction works to be carried out at the works areas of the Project within 300m from the NSRs;

(b) An updated construction methodology of the construction works;

(c) An updated powered mechanical equipment (PME) list for the construction works;

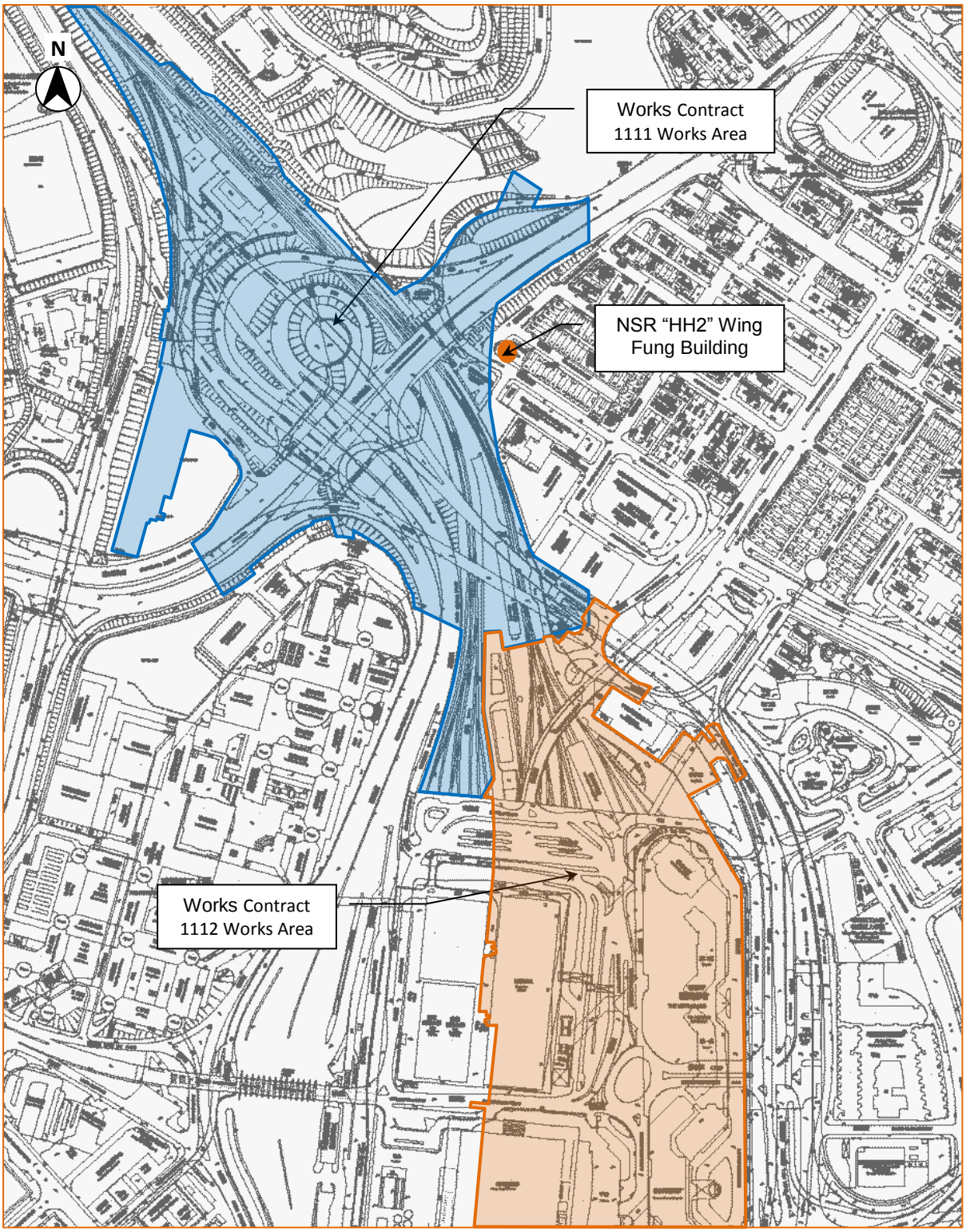
(d) An updated proposal of air-borne construction noise mitigation measures for the NSRs, including the provision of noise barriers, enclosures; and

(e) An updated prediction of noise levels in accordance with the above updated information and mitigation proposals in place.

1.1.8 Since this CNMMP only covers the construction activities at works area for Works Contract 1112, only one NSR within 300m from the site boundary – Wing Fung Building, is considered relevant among the identified NSRs with exceedance in the EPs.

1.1.9 The noise assessment for Wing Fung Building was covered under the CNMMP of the adjacent Works Contract 1111 – Hung Hom North Approach Tunnels which was submitted to EPD on 30 November 2012 and subsequently approved on 8 February 2013. This CNMMP has been prepared to update the CNMMP of Works Contract 1111 and to assess the cumulative noise impact at Wing Fung Building in accordance with the above-mentioned EPs requirements.

Figure 1-1 Location of Noise Sensitive Receiver and Works Areas



2 DESCRIPTION OF STUDY AREA AND WORKS DETAILS OF THE PROJECT

2.1 Noise Sensitive Receiver

2.1.1 With reference to the list of NSRs with predicted residual air-borne construction noise impacts exceeding noise criteria in EP No. EP-437/2012 and EP-438/2012/C, only Wing Fung Building is located within 300m study area of the project area under this works contract.

2.1.2 In accordance with the EP conditions, Wing Fung Building has been identified as a representative NSR in this assessment. A description of this NSR and the predicted noise levels as presented in the approved CNMMP of Works Contract 1111 are shown in ***Table 2-1***. The location of NSR and works area of Works Contract 1112 is shown in ***Figure 1-1***.

Table 2-1 Summary of Representative NSR

NSR ID	NSR Location	Use	No. of Storeys	Noise Criteria ($Leq_{(30min)}$, dB(A))	Predicted Maximum Noise Level ($Leq_{(30min)}$, dB(A))	Predicted Residual Noise Impact ($Leq_{(30min)}$, dB(A)	Duration and Period of Exceedance
HH2[(1)]	Wing Fung Building	Residential	8	75	77[(2)]	2	8 months, Sep to Dec 2014, Jan & Mar to May 2015

Notes:

1. Wing Fung Building was named HH2 in SCL (MKK-HUH) EIA Report and HUH1-3 in SCL (TAW-HUH) and SCL (HHS) EIA Report.
2. Assessment result extracted from the approved CNMMP of Works Contract 1111.

2.2 Updated Construction Methodologies

2.2.1 The proposed construction methodology generally follows that presented in Section 3 of the approved SCL (MKK-HUH), SCL (TAW-HUH) and SCL (HHS) EIA Reports. Major permanent works under Works Contract 1112 were listed in ***paragraph 1.1.5*** above.

2.2.2 As shown in ***Figure 1-1***, only the works area to the north of the existing Hung Hom Station for Works Contract 1112 are within 300m from NSR HH2. Therefore, only the construction activities within the concerned works area will be included in the noise assessment in this CNMMP.

2.3 Updated Construction Programme

2.3.1 This assessment is based on the updated construction programme provided by the Contractor. The construction schedule of Works Contract 1112 has been arranged such that concurrent construction works to be carried out in the vicinity of the NSR can be minimised as far as practicable.

2.3.2 The updated preliminary construction programme for Works Contract 1112 is presented in ***Appendix A***.

2.4 Updated Powered Mechanical Equipment List

2.4.1 As recommended in the approved EIA Reports, quiet plant should be used for construction works to minimize the noise impact to the nearby NSRs. The updated PME list for Works Contact 1112 and the Sound Power Levels (SWLs) of the PME are provided in ***Table 2-2***.

2.4.2 SWLs of the equipment have been made with reference to Table 6 of the *Technical Memorandum on Noise from Construction Work Other Than Percussive Piling* (GW-TM) issued under the Noise Control Ordinance. Where no relevant SWL is available from the GW-TM, reference has been made to British Standard 5228: Part 1:2009 Noise Control on Construction and Open Sites.

Table 2-2 PME List and Proposed Mitigation Measures Adopted for Works Contract 1112

PME	Reference	SWL, dB(A)	Noise Mitigation Measures	Noise Level Reduction, dB(A)	Mitigated SWL, dB(A)
Agitator (electric)	EPD Ref [(1)]	90	Movable Barrier	-5	85
Air compressor, air flow > 30m^3/min	CNP 003	104	Enclosure	-15	89
Bar bender & cutter (electric)	CNP 021	90	Movable Barrier	-5	85
Breaker, hand-held, mass>35kg	CNP 026	114	Movable Barrier	-5	109
Compactor, vibratory	CNP 050	105	Movable Barrier	-5	100
Concrete corer	CNP 042	117	Enclosure	-15	102
Concrete pump (electric)	EPD Ref [(1)]	109	Movable Barrier	-10	99
Consolidated rig (down-the hole-hammer)	BS D11/2	112	Movable Barrier	-10	102
Drill rig, rotary type (diesel)	EPD Ref [(1)]	110	Movable Barrier	-10	100
Dump truck	BS D9/24	104	Movable Barrier	-5	99
Electric vibratory extractor	BS D4/22	125	Movable Barrier	-10	115
Excavator, mini-robot mounted	EPD Ref [(1)]	94	-	-	94
Generator, super silenced, 70dB(A) at 7m	CNP103	95	Enclosure	-15	80
Grout mixer	EPD Ref [(1)]	90	Movable Barrier	-10	80
Grout pump	EPD Ref [(1)]	105	Movable Barrier	-10	95
Hydraulic vibratory driver	BS D4/53	118	Movable Barrier for stationary plant	-10	108

PME	Reference	SWL, dB(A)	Noise Mitigation Measures	Noise Level Reduction, dB(A)	Mitigated SWL, dB(A)
Lorry, gross vehicle weight > 38 tonnes	EPD Ref (1)	112	Movable Barrier	-5	107
Lorry mounted concrete pump	BS D6/36	106	Movable Barrier	-5	101
Mini-Dozer	BS D3/65	111	Movable Barrier	-5	106
Mini-Road Roller	BS D8/25	96	Movable Barrier	-5	91
Piling, large diameter bored, oscillator	CNP 165	115	Enclosure	-15	100
Piling, large diameter bored, reverse circulation drill	CNP 166	100	Movable Barrier	-10	90
Piling, vibrating hammer	EPD Ref (1)	115	Movable Barrier	-10	105
Poker vibrators	BS D6/40	98	Movable Barrier	-5	93
Road roller	BS D8/30	101	Movable Barrier	-5	96
Saw/groover, concrete (petrol)	CNP 203	115	Movable Barrier	-5	110
Saw, wire	EPD Ref (1)	101	Movable Barrier	-5	96
Site fork lift trucks	BS D7/93	104	-	-	104
Tracked crane (34T)	BS D7/112	102	Movable Barrier	-5	97
Tracked excavator	BS D3/35	106	Movable Barrier	-5	101
Tracked excavator fitted with hydraulic rock breaker	BS D8/13	110	Movable Barrier	-10	100
Ventilation fan	CNP 241	108	Enclosure	-15	93
Water pump (electric)	CNP 281	88	Movable Barrier	-10	78
Welder / Generator, portable	EIA Ref (2)	100	-	-	100
Wheeled crane	BS D7/101	94	Movable Barrier	-5	89

Notes:

1. EPD Ref refers to "Power levels of other commonly used PME" prepared by the Noise Control Authority http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf.
2. EIA Ref refers to SWL adopted in the approved SCL(TAW_HUH) EIA Report (Register No. AEIAR-167/2012).
3. Noise level reduction of -5dB(A) and -10 dB(A) was adopted for movable barrier for mobile plant and stationary plant respectively.

2.4.3 A more detailed plant inventory showing PME used for each construction activities for Works Contract 1112 is shown in ***Appendix B*** and the locations of the works area are shown in ***Appendix C***.

3 NOISE ASSESSMENT AND PROPOSED MITIGATION MEASURES

3.1 Noise Assessment Methodology

3.1.1 Construction noise assessment has been carried out in accordance with the methodology provided in the *Technical Memorandum on Noise from Construction Work Other Than Percussive Piling* (GW-TM) under the Noise Control Ordinance and in the approved EIA Reports.

3.1.2 It is assumed that all PME for Works Contract 1112 would be located at the notional source which is a position mid-way between the approximate geographical centre of each phase construction work site and its boundary nearest to the NSR.

3.1.3 To predict the noise level, PME items were divided into groups required for each discrete construction task. The objective is to identify the worst case scenario representing those item of PME to be used concurrently at any given time period. The sound pressure level of each construction task at the representative NSR was calculated based on the number of plant and the distance from the noise assessment points. If there are concurrent construction tasks, the noise level at the representative NSR were predicted by adding up the sound pressure levels of all concurrent construction tasks.

3.1.4 A positive 3 dB(A) façade correction is added to the predicted noise level in order to account for the façade effect at the NSR. Noise impact at the nearest sensitive façade of Wing Fung Building to the source position, i.e. the façade facing south, towards the Works Contract 1112 site, was assessed.

3.2 Cumulative Impact Assessment

3.2.1 Based on latest available information, the construction works for Works Contract 1112 would be conducted concurrently with Works Contract 1111 and Kwun Tong Line Extension (KTE). Cumulative construction noise impact from these projects has been assessed in this plan.

3.2.2 Construction works covered by Works Contract 1111 were made reference to the approved CNMMP of Works Contract 1111 and are summarised in ***Table 3-1***.

Table 3-1 Summary of Construction Tasks for Works Contract 1111

Item	Major Construction Task
1	Construction of SCL (MKK – HUH) North Approach Tunnels
2	Construction of Noise Enclosure at Portal 1A
3	Oi Sen Slope Work
4	Modification works on the existing Homantin Siding
5	Construction of New EVA
6	Construction of SCL (TAW – HUH) Tunnels
7	Construction of tracks and noise barriers of Hung Hom Stabling Siding

3.2.3 To assess the cumulative impact, the noise contribution of KTE is retrieved from the approved KTE EIA Report (Register No.: AEIAR-154/2010) and the approved CNMMP of Works Contract 1111.

3.3 Assessment Criteria

3.3.1 Noise impact generated by the construction activities are assessed in accordance with the criteria given in the Technical Memoranda (TMs) under the Noise Control Ordinance, and the Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM). The applicable construction noise standards for this assessment is provided in ***Table 3-2***.

Table 3-2 Daytime Construction Noise Criteria

Use	Noise Level ($Leq_{(30mins)}$, dB(A))
Residential	75

3.4 Proposed Mitigation Strategy

3.4.1 The mitigation measures proposed in the approved SCL (MKK-HUH), SCL (TAW-HUH) and SCL (HHS) EIA Reports, including the use of temporary movable noise barriers and enclosure (with sufficient ventilation) for relatively static plant, acoustic mats and quiet plant, have been considered and adopted as appropriate. The adopted mitigation measures are summarized in ***Table 2-2***.

3.5 Noise Assessment Result

3.5.1 Predicted noise level at Wing Fung Building after the implementation of quiet plant and mitigation measures, including noise enclosures, movable barriers and acoustic fabric, at Contact 1112 are shown in ***Appendix D*** and summarised in ***Table 3-3***.

Table 3-3 Summary of Noise Assessment Result (Works Contract 1112 only)

NSR ID	NSR Location	Noise Criteria ($Leq_{(30min)}$, dB(A))	Predicted Maximum Noise Level ($Leq_{(30min)}$, dB(A))	Predicted Residual Noise Impact ($Leq_{(30min)}$, dB(A))	Duration and Period of Exceedance
HH2	Wing Fung Building	75	63	Nil	N/A

3.5.2 Cumulative noise levels at Wing Fung Building were predicted and are presented in ***Appendix D*** and summarised in ***Table 3-4***.

Table 3-4 Summary of Noise Assessment Result (Cumulative)

NSR ID	NSR Location	Noise Criteria ($Leq_{(30min)}$, dB(A))	Predicted Maximum Noise Level ($Leq_{(30min)}$, dB(A))	Predicted Residual Noise Impact ($Leq_{(30min)}$, dB(A))	Duration and Period of Exceedance
HH2	Wing Fung Building	75	77	2	8 months, Sep to Dec 2014, Jan & Mar to May 2015

3.5.3 When taking into account the cumulative impacts from concurrent construction projects, residual noise impact is predicted at HH2 even with the implementation of all of the above mentioned mitigation measures proposed in the EIA Report.

3.5.4 The maximum predicted noise level at Wing Fung Building and exceedance duration remain unchanged when compared to the noise prediction as presented in the approved CNMMP prepared by Works Contract 1111.

3.5.5 The cumulative impact assessment indicates that the impact from updated works programme and equipment inventory for Works Contract 1112 is not significant and would not affect the residual noise impact predicted at Wing Fung Building.

4 CONCLUSION

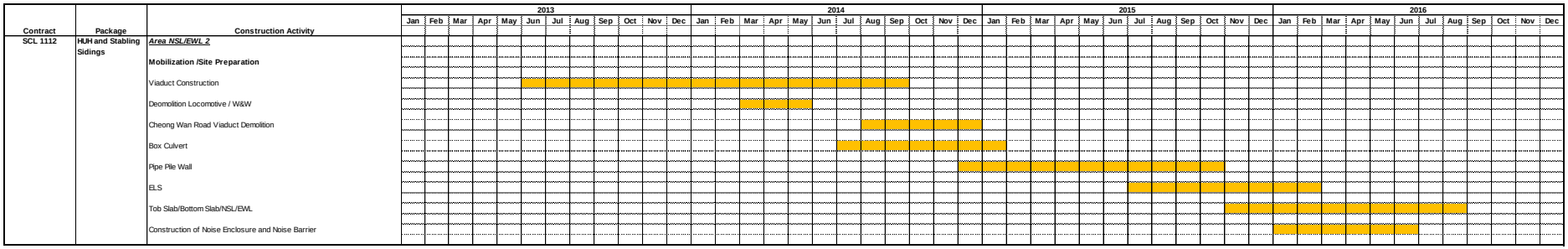
4.1.1 This CNMMP has predicted the construction noise impact from Works Contract 1112 to the identify NSR Wing Fung Building. This plan has taken into account the updated information on PMEs and works programme which would be adopted by the contractor. This plan has also assessed the cumulative construction noise impact from concurrent project including Works Contract 1111 and KTE at the identify NSR Wing Fung Building based on the best available information.

4.1.2 With the implementation of the proposed noise mitigation measures, predicted construction noise impacts remain unchanged for both the maximum predicted noise level and the exceedance duration, when compared to those predicted in the approved CNMMP of Works Contract 1111.

4.1.3 A further review and update will be performed during the construction phase and liaison with affected party is recommended to minimise the construction noise impact as far as practicable. Attention will be given to construction activities which are predicted to contribute to noise exceedances and ensure proper implementation of the appropriate mitigation measures.

APPENDIX A

Updated Construction Programme


Contract
Package
Construction Activity
2013
2014
2015
2016
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
SCL 1112
HUH and Stabling Sidings
Area NSL/EWL 2
Mobilization /Site Preparation
Viaduct Construction
Deomolition Locomotive / W&W
Cheong Wan Road Viaduct Demolition
Box Culvert
Pipe Pile Wall
ELS
Tob Slab/Bottom Slab/NSL/EWL
Construction of Noise Enclosure and Noise Barrier

APPENDIX B

Detailed Construction Plant Inventory

Plant Inventory for Construction Noise Assessment - Hung Hom Station and Stabling Sidings

Scenario: Mitigated

Area NSL/EWL 2

Mobilization /Site Preparation

Viaduct Construction

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Piling, large diameter bored, oscillator	CNP 165	1	115	30%	-15	95
Piling, large diameter bored, reverse circulation drill	CNP 166	1	100	30%	-10	85
Tracked crane (34T)	BS D7/112	1	102	50%	-5	94
Hydraulic vibratory driver	BS D4/53	1	118	50%	-15	100
Tracked excavator	BS D3/35	1	106	50%	-5	98
Concrete pump (electric)	EPD Ref (1)	1	109	80%	-10	98
Water pump (electric)	CNP 281	5	88	100%	-10	85
Wheeled crane	BS D7/101	1	94	80%	-5	88
Dump truck	BS D9/24	1	104	30%	-5	94
Concrete corer	CNP 042	1	117	20%	-15	95
Site fork lift trucks	BS D7/93	1	104	30%	-	99
					Overall Noise Level, dB(A)	**106**

Deomolition Locomotive / W&W

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Tracked crane (34T)	BS D7/112	1	102	50%	-5	94
Tracked excavator	BS D3/35	1	106	60%	-5	99
Wheeled crane	BS D7/101	1	94	30%	-5	84
Dump truck	BS D9/24	1	104	30%	-5	94
Saw/groover, concrete (petrol)	CNP 203	1	115	40%	-5	106
Tracked excavator fitted with hydraulic rock breaker	BS D8/13	2	110	60%	-10	101
					Overall Noise Level, dB(A)	**108**

Cheong Wan Road Viaduct Demolition

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Saw, wire	EPD Ref (1)	1	101	40%	-5	92
Tracked crane (34T)	BS D7/112	4	102	80%	-5	102
Lorry, gross vehicle weight > 38 tonnes	EPD Ref (1)	1	112	30%	-5	102
Tracked excavator	BS D3/35	1	106	70%	-5	99
Wheeled crane	BS D7/101	1	94	80%	-5	88
Tracked excavator fitted with hydraulic rock breaker	BS D8/13	1	110	70%	-10	98
					Overall Noise Level, dB(A)	**107**

Box Culvert

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Tracked excavator	BS D3/35	5	106	30%	-10	98
Wheeled crane	BS D7/101	1	94	80%	-5	88
Piling, vibrating hammer	EPD Ref (1)	2	115	30%	-10	103
Generator, super silenced, 70dB(A) at 7m	CNP 103	2	95	100%	-10	88
Water pump (electric)	CNP 281	2	88	100%	-10	81
Dump truck	BS D9/24	2	104	30%	-5	97
Tracked crane (34T)	BS D7/112	1	102	50%	-5	94
Excavator, mini-robot mounted	EPD Ref (1)	1	94	70%	-	92
Breaker, hand-held, mass>35kg	CNP 026	1	114	30%	-5	104
					Overall Noise Level, dB(A)	**108**

Pipe Pile Wall

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Tracked crane (34T)	BS D7/112	2	102	30%	-5	95
Consolidated rig (down-the hole-hammer)	BS D11/2	1	112	70%	-10	100
Drill rig, rotary type (diesel)	EPD Ref (1)	1	110	70%	-10	98
Electric vibratory extractor	BS D4/22	1	125	70%	-10	113
Grout mixer	EPD Ref (1)	1	90	70%	-10	78
Grout pump	EPD Ref (1)	1	105	70%	-10	93
Agitator (electric)	EPD Ref (1)	1	90	70%	-5	83
Generator, super silenced, 70dB(A) at 7m	CNP 103	1	95	100%	-15	80
Welder / Generator, portable	EIA Ref (2)	1	100	70%	-	98
Air compressor, air flow > 30m^3/min	CNP 003	1	104	100%	-15	89
Water pump (electric)	CNP 281	2	88	100%	-10	81
					Overall Noise Level, dB(A)	**114**

Plant Inventory for Construction Noise Assessment - Hung Hom Station and Stabling Sidings

Scenario: Mitigated

Area NSL/EWL 2

Mobilization /Site Preparation

ELS

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Air compressor, air flow > 30m^3/min	CNP 003	2	104	100%	-15	92
Tracked crane (34T)	BS D7/112	2	102	50%	-5	97
Tracked excavator	BS D3/35	2	106	70%	-5	102
Excavator, mini-robot mounted	EPD Ref (1)	1	94	70%	-	92
Site fork lift trucks	BS D7/93	1	104	50%	-	101
Mini-Dozer	BS D3/65	1	111	50%	-5	103
Road roller	BS D8/30	1	101	50%	-5	93
Water pump (electric)	CNP 281	1	88	100%	-10	78
Welder / Generator, portable	EIA Ref (2)	5	100	70%	-	105
Ventilation fan	CNP 241	5	108	100%	-15	100
					Overall Noise Level, dB(A)	**110**

Tob Slab/Bottom Slab/NSL/EWL

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Tracked excavator	BS D3/35	3	106	70%	-5	104
Excavator, mini-robot mounted	EPD Ref (1)	3	94	70%	-	97
Mini-Dozer	BS D3/65	2	111	50%	-5	106
Mini-Road Roller	BS D8/25	2	96	50%	-5	91
Compactor, vibratory	CNP 050	2	105	70%	-5	101
Dump truck	BS D9/24	5	104	30%	-5	101
Concrete pump (electric)	EPD Ref (1)	1	109	80%	-10	98
Lorry mounted concrete pump	BS D6/36	8	106	80%	-5	109
Ventilation fan	CNP 241	5	108	100%	-15	100
Poker vibrators	BS D6/40	8	98	80%	-5	101
Bar bender & cutter (electric)	CNP 021	5	90	30%	-5	87
					Overall Noise Level, dB(A)	**113**

Construction of Noise Enclosure and Noise Barrier

PME	TM Ref./ other Ref	No. of Items	SWL/ Item dB(A)	On- time %	Barrier Correction	Sub-total SWL
Tracked excavator	BS D3/35	1	106	70%	-5	99
Excavator, mini-robot mounted	EPD Ref (1)	1	94	70%	-	92
Compactor, vibratory	CNP 050	2	105	70%	-5	101
Dump truck	BS D9/24	1	104	30%	-5	94
Lorry mounted concrete pump	BS D6/36	1	106	80%	-5	100
Poker vibrators	BS D6/40	2	98	80%	-5	95
Tracked crane (34T)	BS D7/112	2	102	50%	-5	97
Bar bender & cutter (electric)	CNP 021	1	90	30%	-5	80
Wheeled crane	BS D7/101	1	94	80%	-5	88
					Overall Noise Level, dB(A)	**107**

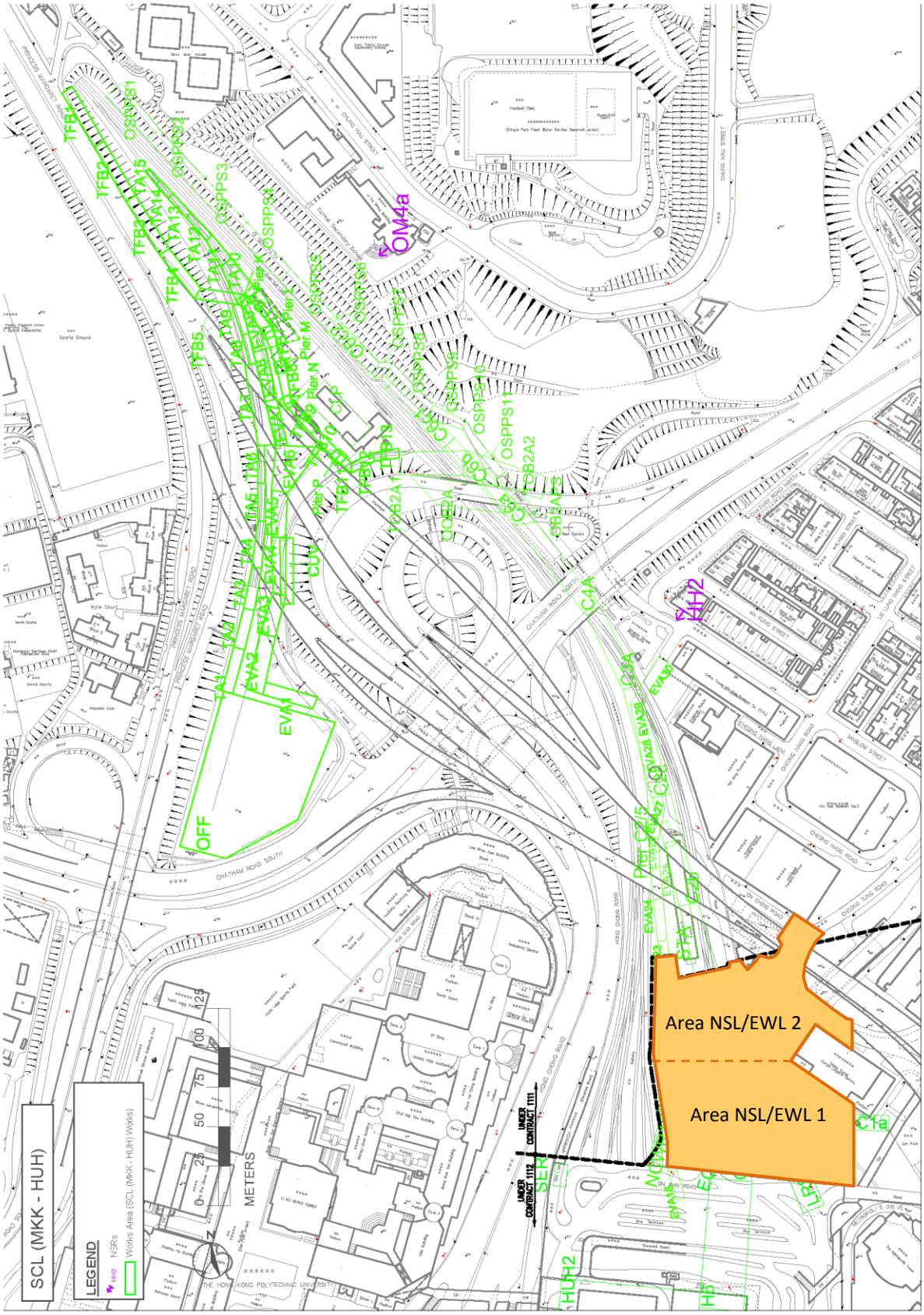
Note

1. EPD Ref refers to "Power levels of other commonly used PME" prepared by the Noise Control Authority http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf
2. EIA Ref refers to SWL adopted in the approved SCL(TAW_HUH) EIA Report (Register No. AEIAR-167/2012).

APPENDIX C

Construction Works Area

Construction Works Area for Works Contract 1112



APPENDIX D

Detailed Construction Noise Calculation

Contract	Package	Construction Activity	Work [1] Site No.	SWL	Dist [1] (m)	SPL [2]	Shielding Effect	Start Month	End Month
SCL1112	HUH and Stabling Sidings	***Area NSL/EWL 2***							
		Mobilization /Site Preparation							
		Viaduct Construction	NSL/EWL 1&2	106	256	53	0		
		Decmolition Locomotive / W&W	NSL/EWL 1&2	108	256	55	0		
		Cheong Wan Road Viaduct Demolition	NSL/EWL 1&2	107	256	54	0		
		Box Culvert	NSL/EWL 1&2	108	256	55	0		
		Pipe Pile Wall	NSL/EWL 1&2	114	256	61	0		
		ELS	NSL/EWL 1&2	110	256	57	0		
		Tob Slab/Bottom Slab/NSL/EWL	NSL/EWL 1&2	113	256	60	0		
		Construction of Noise Enclosure and Noise Barrier	NSL/EWL 1&2	107	256	53	0		
Overall Noise Level, Leq (30min), dB(A)									
Noise Level from SCL1111, dB(A)									
Noise Level from XTL, dB(A)									
Cumulative Noise Level, dB(A)									

Construction Activity	2012 Nov	2012 Dec	2013 Jan	2013 Feb	2013 Mar	2013 Apr	2013 May	2013 Jun	2013 Jul	2013 Aug	2013 Sep	2013 Oct	2013 Nov	2013 Dec	2014 Jan	2014 Feb	2014 Mar	2014 Apr	2014 May	2014 Jun	2014 Jul	2014 Aug	2014 Sep	2014 Oct	2014 Nov	2014 Dec
Mobilization /Site Preparation																										
Viaduct Construction								53	53	53	53	53	53	53	53	53	53	53	53	53	53	53				
Decmolition Locomotive / W&W																	55	55	55							
Cheong Wan Road Viaduct Demolition																						54	54	54	54	54
Box Culvert																					55	55	55	55	55	55
Pipe Pile Wall																										61
ELS																										
Tob Slab/Bottom Slab/NSL/EWL																										
Construction of Noise Enclosure and Noise Barrier																										
Overall Noise Level, Leq (30min), dB(A)	-	-	-	-	-	-	53	53	53	53	53	53	53	53	53	53	57	57	57	57	57	59	59	58	58	61
Noise Level from SCL1111, dB(A)	-	-	60	65	65	68	67	67	60	60	63	65	65	65	65	65	57	57	74	75	72	75	75	75	75	75
Noise Level from XTL, dB(A)	64	62	63	63	63	60	60	59	59	59	61	61	61	59	60	66	65	66	65	66	65	66	65	62	64	62
Cumulative Noise Level, dB(A)	64	62	65	67	67	68	68	69	62	63	64	67	68	68	66	69	67	67	75	75	73	76	76	76	76	76

Construction Activity	2015 Jan	2015 Feb	2015 Mar	2015 Apr	2015 May	2015 Jun	2015 Jul	2015 Aug	2015 Sep	2015 Oct	2015 Nov	2015 Dec	2016 Jan	2016 Feb	2016 Mar	2016 Apr	2016 May	2016 Jun	2016 Jul	2016 Aug	2016 Sep	2016 Oct	2016 Nov	2016 Dec
Mobilization /Site Preparation																								
Viaduct Construction																								
Decmolition Locomotive / W&W																								
Cheong Wan Road Viaduct Demolition																								
Box Culvert	55																							
Pipe Pile Wall	61	53	53	53	53	53	53	53	53	53														
ELS							57	57	57	57	57	57	57	57										
Tob Slab/Bottom Slab/NSL/EWL											60	60	60	60	60	60	60	60	60					
Construction of Noise Enclosure and Noise Barrier													53	53	53	53	53	53						
Overall Noise Level, Leq (30min), dB(A)	62	53	53	53	53	53	59	58	58	58	62	62	62	62	61	61	61	61	60	60	-			
Noise Level from SCL1111, dB(A)	77	75	75	75	75	73	74	75	75	75	72	71	73	72	74	63	64	65	64	58	65	63	64	62
Noise Level from XTL, dB(A)	60	58	58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cumulative Noise Level, dB(A)	77	75	75	75	77	73	74	75	75	75	73	72	73	73	74	66	66	65	65	62	65	64	64	62

Construction Activity	2017 Jan	2017 Feb	2017 Mar	2017 Apr	2017 May	2017 Jun	2017 Jul	2017 Aug	2017 Sep	2017 Oct	2017 Nov	2017 Dec	2018 Jan	2018 Feb	2018 Mar	2018 Apr	2018 May	2018 Jun	2018 Jul	2018 Aug	2018 Sep	2018 Oct	2018 Nov	2018 Dec
Mobilization /Site Preparation																								
Viaduct Construction																								
Decmolition Locomotive / W&W																								
Cheong Wan Road Viaduct Demolition																								
Box Culvert																								
Pipe Pile Wall																								
ELS																								
Tob Slab/Bottom Slab/NSL/EWL																								
Construction of Noise Enclosure and Noise Barrier																								
Overall Noise Level, Leq (30min), dB(A)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Noise Level from SCL1111, dB(A)	63	63	64	66	72	72	72	72	61	61	58	61	61	60	58	55	58	-	-	-	-	-	-	-
Noise Level from XTL, dB(A)	62	58	58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cumulative Noise Level, dB(A)	65	64	65	66	72	72	72	72	61	61	58	61	61	60	58	58	58	-	-	-	-	-	-	-

Note: Highlighted shell denotes months for which NSR with residual noise impact.