



中國建築 - 利達聯營
CHINA STATE - LEADER JOINT VENTURE

**Wan Chai Development Phase II –
Central – Wan Chai Bypass at Wan Chai West
Contract No. HK/2012/08**

Noise Management Plan

for FEP-06/356/2009

Revision: 2

Revision	Date of Issue	Remarks	Prepared by	Checked by
0	14 Mar 2013	First Issue	James MA	George CHEUNG
1	10 Apr 2013	Revised as per ET's comments	James MA	George CHEUNG
2	28 Jun 2013	Revised as per EPD's comments	James MA	George CHEUNG

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1 Introduction

Wan Chai Development Phase II – Central - Wan Chai Bypass at Wan Chai West (Contract No. HK/2012/08) is part of the permanent reclamation works including associated dredging works in Wan Chai Development Phase II (WDII) and Central - Wan Chai Bypass covered under the Environmental Permit No. EP-356/2009.

China State – Leader Joint Venture was granted on 5 March 2013 a Further Environmental Permit (No. FEP-06/356/2009) for the Contract No. HK/2012/08 under the master Environmental Permit.

Under Condition 2.23 of Part C of the FEP-06/356/2009, a noise management plan has to be prepared and deposited by the permit holder to the EPD at least two weeks prior to the commencement of construction of the corresponding component(s) of the project.

The purpose of this Noise Management Plan is to provide an evaluation of the potential noise impact during construction phase of the project (Contract No. HK/2012/08) which is undertaken by China State – Leader Joint Venture (CSL JV).

2 Environmental Legislation, Policies, Plans, Standards and Criteria

Noise impacts have been assessed in accordance with the criteria and methodology given in the Technical Memoranda made under the Noise Control Ordinance (NCO) and the Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM).

The NCO provides the statutory framework for noise control. Assessment procedures and standards are set out in the following Technical Memoranda:

- Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM);
- Technical Memorandum on Noise from Construction Work other than Percussive Piling (GW-TM);
- Technical Memorandum on Noise from Construction Work in Designated Areas (DA-TM); and
- Technical Memorandum on Noise from Places other than Domestic Premises, Public Places or Construction Sites (IND-TM).

3 Noise Limit

The NCO provides the statutory framework for noise control of construction work other than percussive piling using powered mechanical equipment (PME) between the hours of 1900 and 0700 or at any time on Sundays and public holidays (i.e. restricted hours). Noise control on construction activities taking place at other times is subject to the Criteria for Evaluating Noise Impact stated in Table 1B of Annex 5 in the EIAO-TM. The noise limit is 75dB(A) Leq(30min) at the facades of dwellings and 70dB(A) Leq(30min) at the facades of schools (65dB(A) during examinations). The construction noise criteria are summarized in Table 1

Table 1 Daytime Construction Noise Criteria

Uses	Noise Level in Leq(30min), dB(A)
Domestic Premises	75
Educational Institution	70
Educational Institution (during examination)	65

Between 1900 and 0700 hours and all days on Sundays and public holidays, activities involving the use of powered mechanical equipment (PME) for the purpose of carrying out construction work is prohibited unless a Construction Noise Permit (CNP) has been obtained. A CNP may be granted on condition that the Acceptable Noise Level (ANL) for the noise sensitive receivers (NSRs) can be complied with. ANLs are assigned depending upon the Area Sensitivity Ratings (ASRs). The corresponding Basic Noise Levels (BNLs) for evening and night time periods are given in Table 2.

Table 2 Construction Noise Criteria for Activity other than Percussive Piling (for Evening and Night Time)

Time Period	Basic Noise Levels (BNLs)		
	ASR A	ASR B	ASR C
Evening (1900 to 2300 hours)	60	65	70
Night (2300 to 0700 hours)	45	50	55

4 Identified Noise Sensitive Receivers (NSRs)

In order to evaluate the construction noise impact from the project (Contract No.

HK/2012/08), representative noise sensitive receivers (NSRs) for this project are selected for assessment and summarized in Table 3. The site layout plan (scale 1:1000) of the project showing the relevant NSRs is shown in Appendix I.

Table 3 List of Relevant NSRs Selected for Noise Assessment

Relevant NSRs	Use	Nearest Distance from Works Based on EIA Report
*The Hong Kong Academy for Performing Arts (HKAPA)	Performing Arts Centre	115m

*: NSRs as identified in the EIA Report (Register No.: AEIAR-125/2008)

It is expected that the construction noise impact on the selected NSR is deemed to be insignificant as the NSR has facades / fixed windows and it is provided with central air conditioning. Hence, the NSR does not rely on openable windows for ventilation.

5 Construction Noise

The construction tasks which are deemed to have emission of construction noise are shown as below:

- Dredging works and seawall construction;
- Filling behind seawall;
- Drainage culvert construction;
- Demolition works.

Types and number of powered mechanical equipment (PME) which would be used on site are documented in Appendix 4.5 of AEIAR-125/2008. They are grouped according to different stages of works. The actual list of PME to be implemented on site and specific noise impact of individual construction task will be reviewed in relevant method statements via submission to the Engineer's Representative (ER).

6 Mitigation of Environmental Impacts

To further reduce the noise impact to the NSRs during normal daytime working hours, it is recommended that the following noise reduction measures should be considered as far as practicable during construction:

6.1 Quiet Powered Mechanical Equipment (QPME)

Use of the following QPME will be considered during construction phase of this Project to reduce noise impact:

- Bulldozer, wheeled/tracked
- Excavator, wheeled/tracked
- Loader, wheeled/tracked
- Roller, vibratory
- Power rammer (petro)
- Compactor, vibratory
- Crane, mobile
- Generator

6.2 Multiple-phase Construction Schedule

The multiple-phase construction schedule will be adopted as far as practicable during the planning of the construction programme.

6.3 Noise Reduction at Source

In order to reduce the noise impact generated by the stationary PME, movable acoustic shelter, flexible noise barriers and acoustic blanket will be considered.

The barrier and shelter could be made of a sheeting not less than 5kg/m² or baffles which comprise of sound absorbing lining and 1mm thick steel (or 10mm thick plywood) backing.

Typical details of the noise barrier are shown in Appendix II.

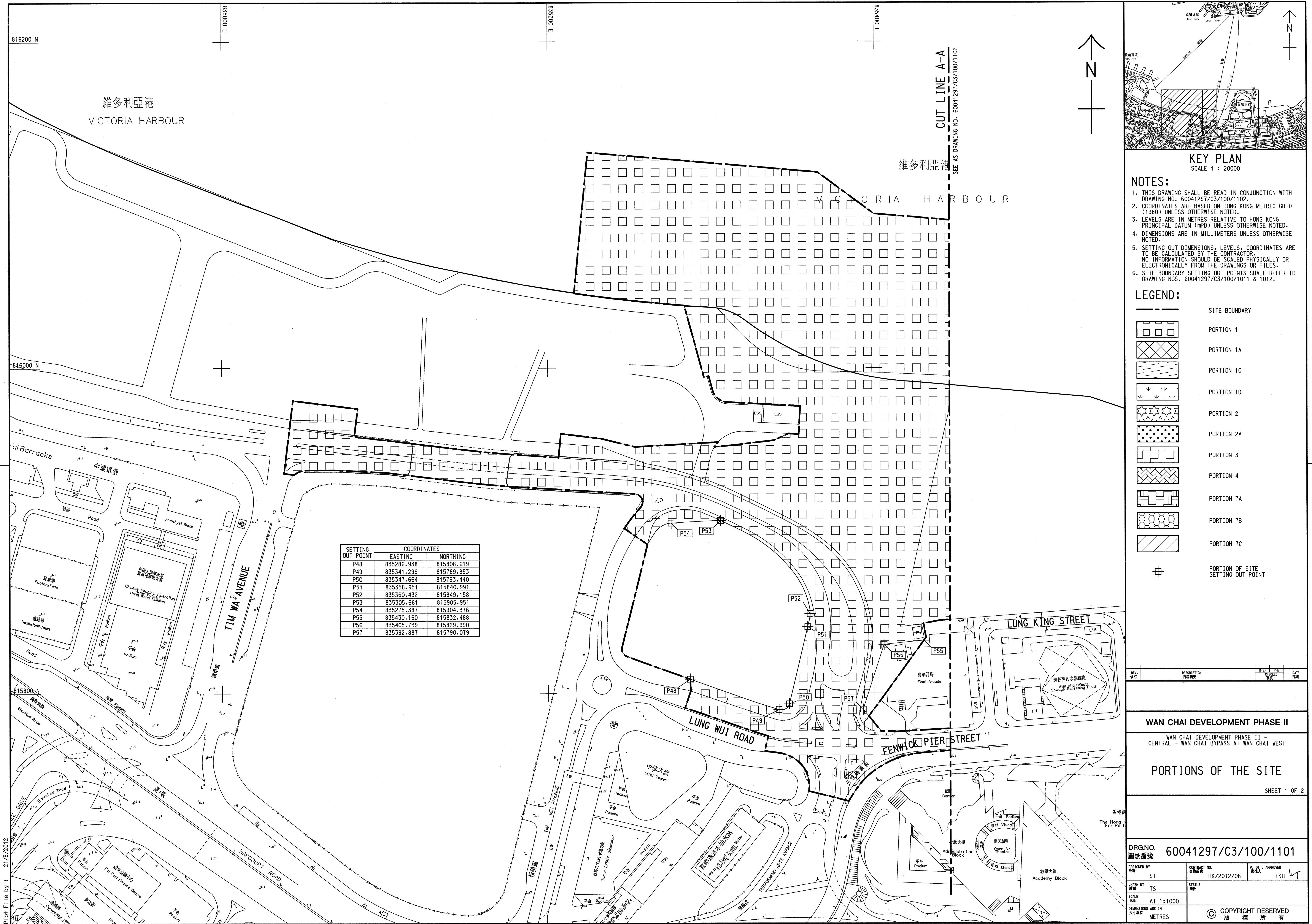
6.4 Other Mitigation Measures

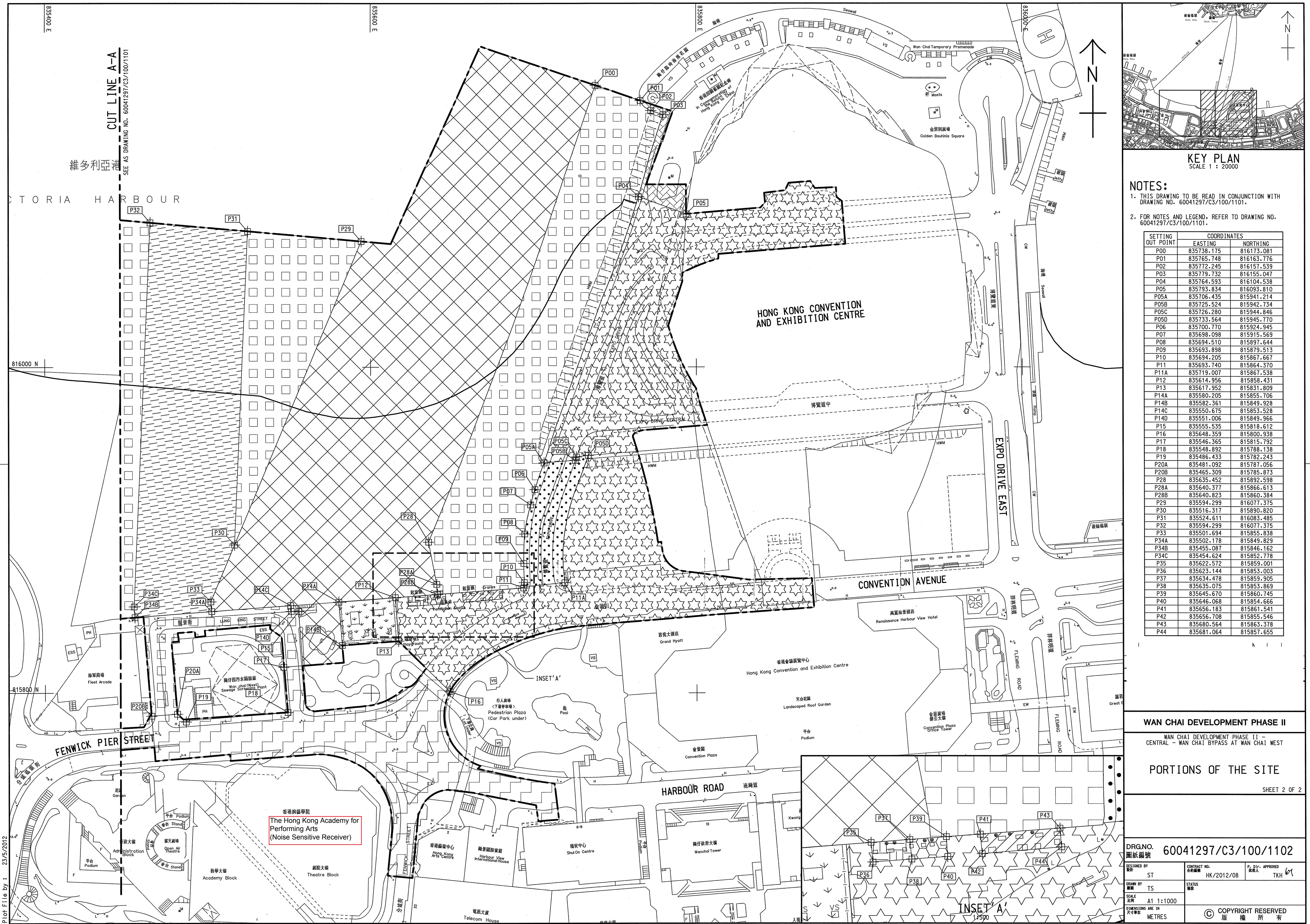
The following good practices will be adopted when practicable to alleviate noise impact:

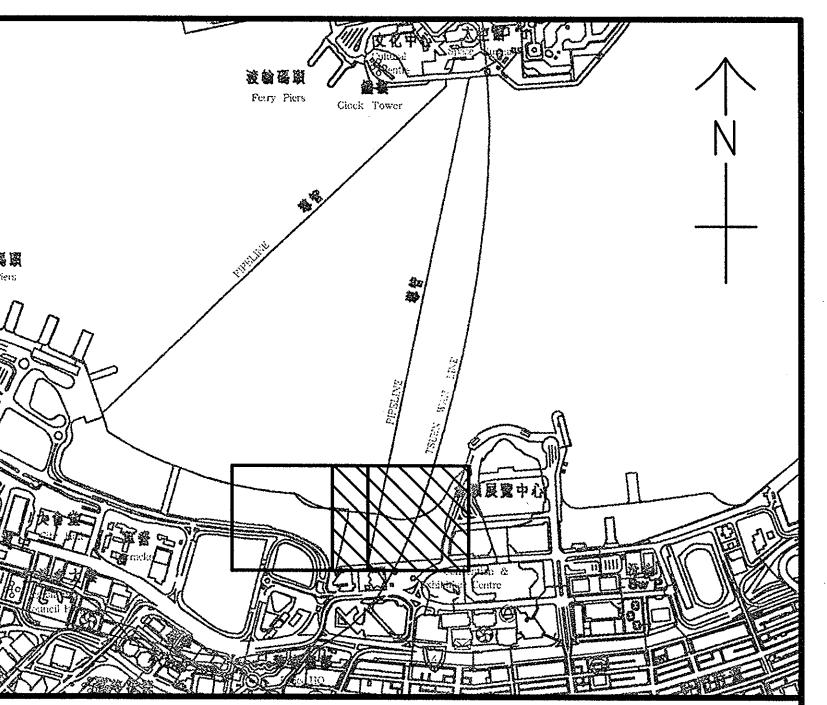
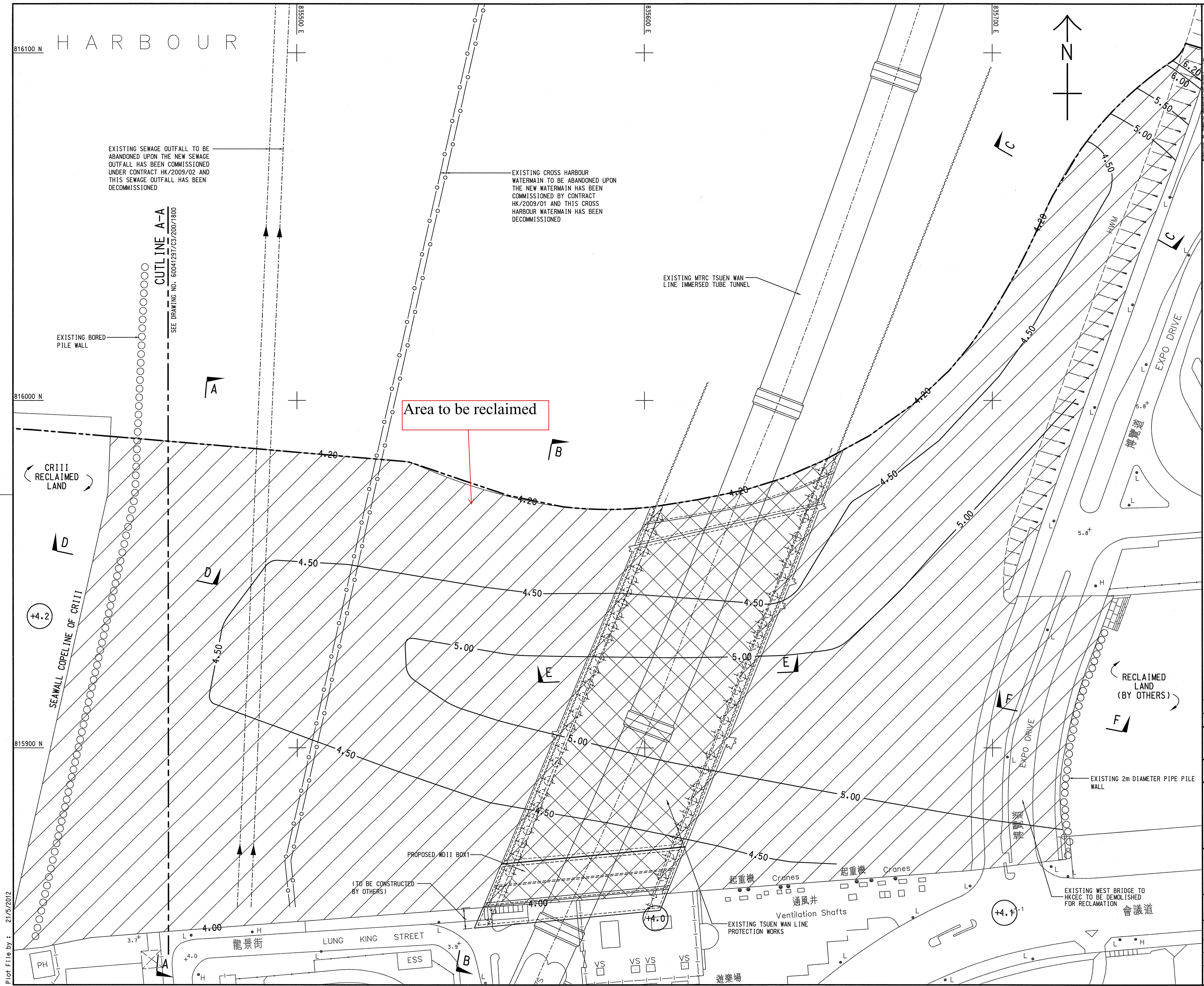
- All PME to be used on site should be properly maintained;
- Mobile plant should be sited as far as away from NSRs as possible;
- Starting up the engines of all plant simultaneously should be avoided;
- PME known to emit noise strongly in one direction should, where possible, be orientated so that the noise is directed away from the nearby NSRs;
- Close liaison and communication with the neighbourhood including HKAPA should be maintained.

Appendix I

Site Layout Plan Showing the Relevant Noise Sensitive Receivers







KEY PLAN
SCALE 1 : 20000

NG TO BE READ IN CONJUNCTION WITH
• 60041297/C3/200/1800.

TES:
THIS DRAWING TO BE READ IN CONJUNCTION WITH
DRAWING NO. 60041297/C3/200/1800.
FOR GENERAL NOTES AND LEGEND, REFER TO DRAWING

 PROPOSED RECLAMATION AREA

WAN CHAI DEVELOPMENT PHASE II

WAN CHAI DEVELOPMENT PHASE II -
CENTRAL - WAN CHAI BYPASS AT WAN CHAI WEST

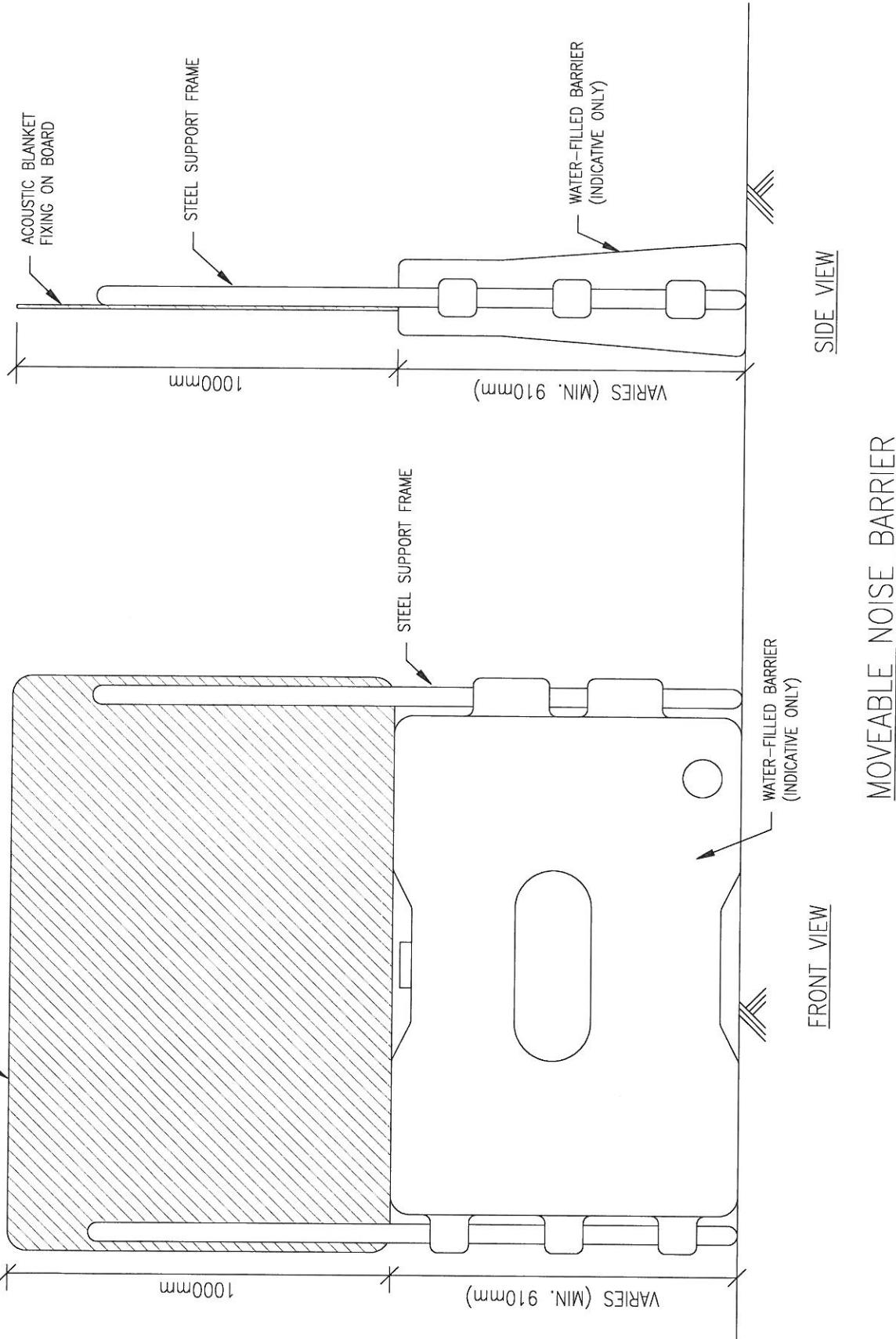
General Layout of the Project

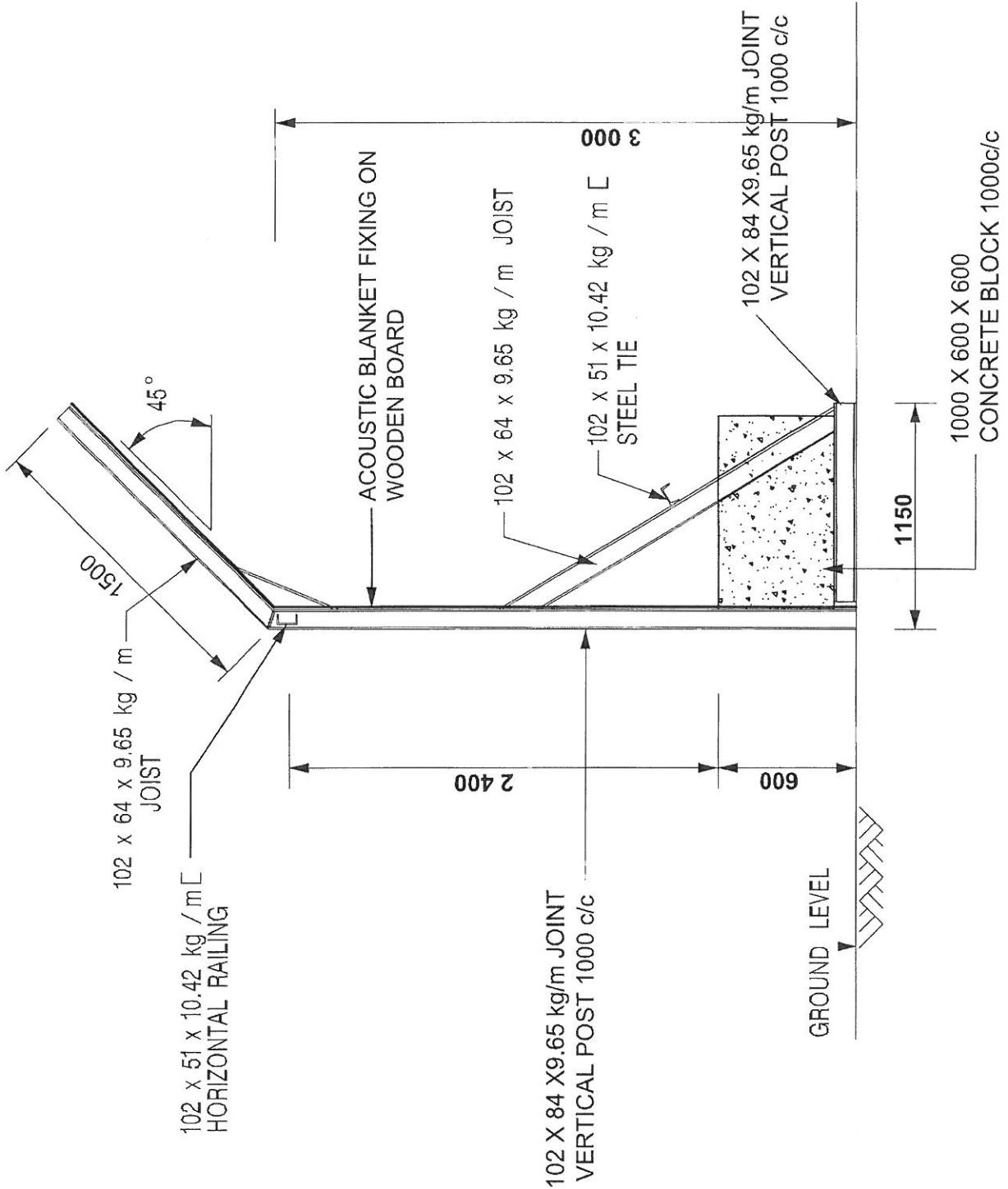
Figure 1b

ENDED BY TTF	CONTRACT NO. 合約編號 HK/2012/08	P. DIR. APPROVED 批准人 TKH <i>WT</i>
BY TS	STATUS 階段	
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Appendix II

Details of a Typical Noise Barrier





DETAIL FOR NOISE BARRIER