

Appendix F

Construction Noise Information and Calculations

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BY HAND

Chief Engineer/Project Management,
Drainage Services Department,
42th Floor, Revenue Tower,
5 Gloucester Road,
Wan Chai,
Hong Kong

For the attention of Mr C S Cheng

Dear Sir,

Agreement No. CE 67/98
Yuen Long, Kam Tin, Ngau Tam Mei &
Tin Shui Wai Drainage Improvement, Stage 1, Phase 2
Kam Tin and Ngau Tam Mei
Environmental Impact Assessment for Channel KT13

We refer to Item 4 (xxvii) of EPD's memo reference Ax(1)EP2/N6/57) dated 11 April 2002 on the EIA for KT13. As requested by EPD, the project proponent has to agree a set of construction plant that are realistic and practical in meeting the construction programme, though there may be variations during the actual construction stage.

A list of the construction plant used in the noise calculation (ref. Appendix F1 of the KT13 EIA report) is tabulated below for your easy reference.

Equipment List for Construction of KT13

Activity / Equipment	Number of Equipment
Site Clearance	
Excavator	1
Lorry	1
Water pump, submersible (electric)	1
Excavation of Channel	
Excavator	1
Lorry	1

Chairman:
MD McMillan

Managing Director:
HS Li

Directors:
C Dutton, NR Townsend,
LS Lam, KF Chung,
CL Lam, PC Chan,
KY Ho, WN Lam,
HL Man, JW Hippi

Technical Directors:
RC Deacon, DC Arnold,
HB Chan

Consultant:
JP Eidsen

Member
of the Association
of Consulting Engineers
of Hong Kong.



ISO 9001:1994
Certificate No: CC204

Corporate Member
of Green Council



FILE

OFFICE CO	
PROJECT	
TO SEE	<i>PKL</i>

Our reference
PCW/PKL/382047/100.3

Your reference

13 August 2002

Activity / Equipment	Number of Equipment
Water pump, submersible (electric)	1
Formwork	
Bar bender and cutter (electric)	1
Crane, mobile mounted	1
Saw, circular, wood	1
Water pump, submersible (electric)	2
Concreting Works	
Air compressor	1
Concrete lorry mixer	1
Hand-held vibratory poker	2

If you require any clarification, please contact the undersigned or Mr. Lok Yan via 26087440.

Yours faithfully
 for and on behalf of
 BINNIE BLACK & VEATCH HK LIMITED



C. W. POON
 PROJECT MANAGER

COPY

Appendix F1
Equipment Lists and associated Sound Power Level for Construction Activities of Drainage Improvement Works at KT13

A1. Construction Equipment during Site Clearance

Type of PME	TM Code	SWL - dB(A)	No. of Units	Power Term	Total SWL - dB(A)
Excavator, tracked	081	112	1	1.58E+11	115.0
Lorry	141	112	1	1.58E+11	
Water pump, submersible (electric)	283	85	1	3.16E+08	

A2. Construction Equipment during Excavation of Channel

Type of PME	TM Code	SWL - dB(A)	No. of Units	Power Term	Total SWL - dB(A)
Excavator, tracked	081	112	1	1.58E+11	115.0
Lorry	141	112	1	1.58E+11	
Water pump, submersible (electric)	283	85	1	3.16E+08	

A3. Construction Equipment during Formwork

Type of PME	TM Code	SWL - dB(A)	No. of Units	Power Term	Total SWL - dB(A)
Bar bender and cutter (electric)	021	90	1	1.00E+09	113.5
Crane, mobile mounted (diesel)	048	112	1	1.58E+11	
Saw, circular, wood	201	108	1	6.31E+10	
Water pump, submersible (electric)	283	85	2	6.32E+08	

A4. Construction Equipment during Concreting Works

Type of PME	TM Code	SWL - dB(A)	No. of Units	Power Term	Total SWL - dB(A)
Air Compressor, air flow $\leq 10\text{m}^3/\text{min}$.	001	100	1	1.00E+10	116.9
Concrete Lorry Mixer	044	109	1	7.94E+10	
Poker, vibratory, hand-held	170	113	2	3.99E+11	

Appendix F2
Quiet Equipment Lists and associated Sound Power Level for Construction Activities of KT13

A1. Construction Equipment during Site Clearance

Type of PME	TM Code / BS Ref.	SWL - dB(A)	No. of Units	Power Term	Total SWL - dB(A)
Excavator, tracked	C.3-96	109	1	7.94E+10	110.5
Lorry	C.9-27	105	1	3.16E+10	
Water pump, submersible (electric)	283	85	1	3.16E+08	

A2. Construction Equipment during Excavation of Channel

Type of PME	TM Code / BS Ref.	SWL - dB(A)	No. of Units	Power Term	Total SWL - dB(A)
Excavator, tracked	C.3-96	109	1	7.94E+10	110.5
Lorry	C.9-27	105	1	3.16E+10	
Water pump, submersible (electric)	283	85	1	3.16E+08	

A3. Construction Equipment during Formwork

Type of PME	TM Code / BS Ref.	SWL - dB(A)	No. of Units	Power Term	Total SWL - dB(A)
Bar bender and cutter (electric)	021	90	1	1.00E+09	109.1
Crane, mobile mounted (diesel)	C.7-110	106	1	3.98E+10	
Saw, circular, wood	C.7-78	106	1	3.98E+10	
Water pump, submersible (electric)	283	85	2	6.32E+08	

A4. Construction Equipment during Concreting Works

Type of PME	TM Code / BS Ref.	SWL - dB(A)	No. of Units	Power Term	Total SWL - dB(A)
Air Compressor, air flow $\leq 10\text{m}^3/\text{min}$.	001	100	1	1.00E+10	106.0
Concrete Lorry Mixer	C.6-23	100	1	1.00E+10	
Poker, vibratory, hand-held	C.6-32	100	2	2.00E+10	

BS Ref.: BS 5228 Part 1 (1997)

Appendix F3

Table of Predicted Unmitigated and Mitigated Construction Noise Levels at Representative NSRs

RNSR ID	Construction Works Involved	Distance of RNSR from Notional Point, m	Unmitigated Sound Power Levels of Activities, dB(A)	Predicted Noise Level (unmitigated), dB(A)	Exceed Noise Criteria?	Mitigated Noise Level(1), dB(A)	Exceed Noise Criteria?	Mitigated Noise Level(2), dB(A)	Exceed Noise Criteria?
13a	A1	50	115	76	Yes	71	No	N/A	N/A
	A2	50	115	76	Yes	71	No	N/A	N/A
	A3	50	113	75	No	N/A	N/A	N/A	N/A
	A4	50	117	78	Yes	67	No	N/A	N/A
13b	A1	25	115	82	Yes	78	Yes	68	No
	A2	25	115	82	Yes	78	Yes	68	No
	A3	25	113	81	Yes	76	Yes	66	No
	A4	25	117	84	Yes	73	No	N/A	N/A
13c	A1	28	115	81	Yes	77	Yes	67	No
	A2	28	115	81	Yes	77	Yes	67	No
	A3	28	113	80	Yes	75	No	N/A	N/A
	A4	28	117	83	Yes	72	No	N/A	N/A
13d	A1	14	115	87	Yes	83	Yes	73	No
	A2	14	115	87	Yes	83	Yes	73	No
	A3	14	113	86	Yes	81	Yes	71	No
	A4	14	117	89	Yes	78	Yes	68	No
13e	A1	25	115	82	Yes	78	Yes	68	No
	A2	25	115	82	Yes	78	Yes	68	No
	A3	25	113	81	Yes	76	Yes	66	No
	A4	25	117	84	Yes	73	No	N/A	N/A
13f	A1	12	115	88	Yes	84	Yes	74	No
	A2	12	115	88	Yes	84	Yes	74	No
	A3	12	113	87	Yes	82	Yes	72	No
	A4	12	117	90	Yes	79	Yes	69	No

Notes:

A1 : Site Clearance

A2 : Excavation of Channel

A3 : Formwork

A4 : Concreting Works

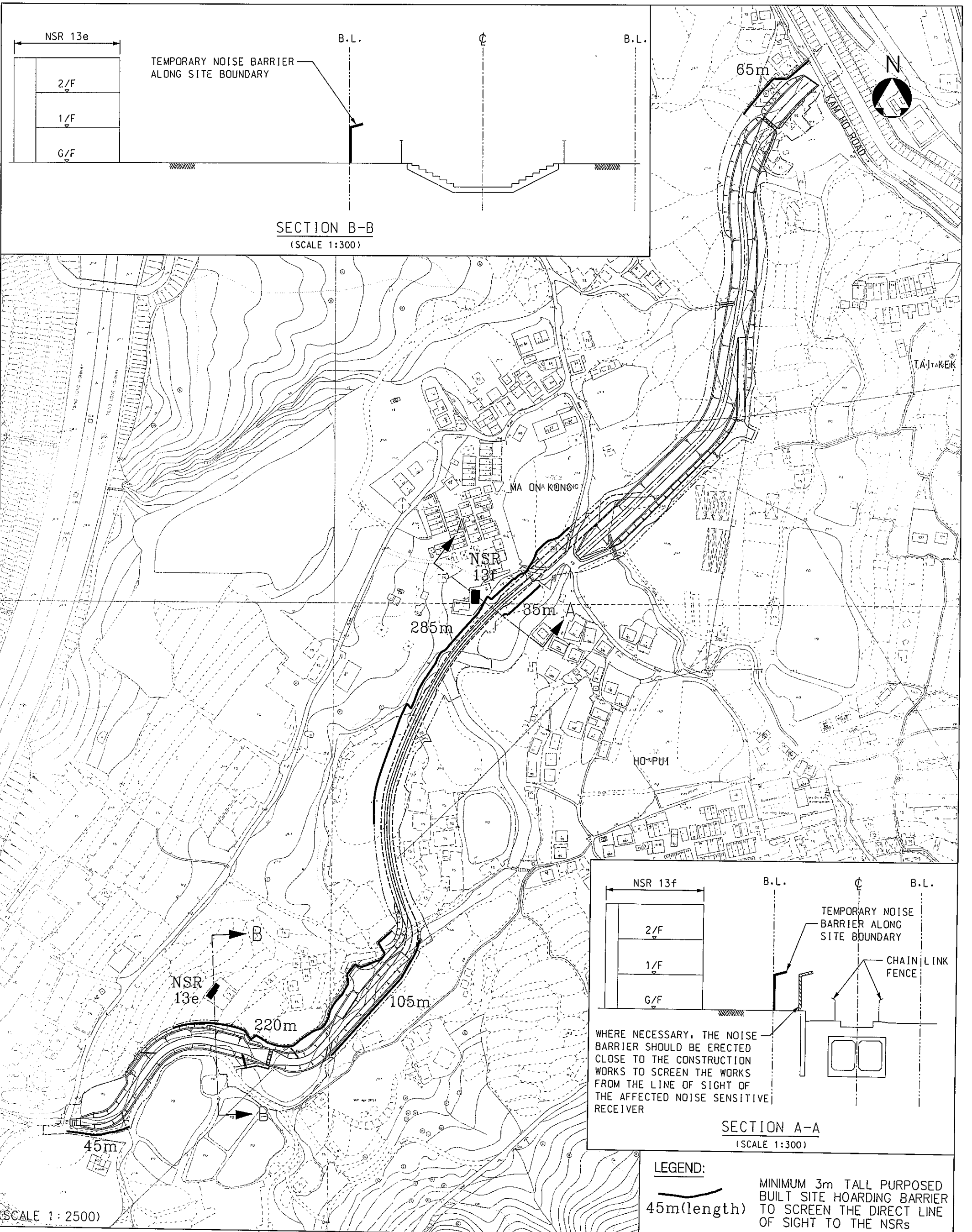
Level 1 Mitigation : Use of Quiet Equipment.

Level 2 Mitigation : Use of Quiet Equipment + Erection of Acoustic Noise Barrier / Hoarding, assume 10 dB(A) reduction.

N/A : not applicable or not required

3 dB(A) façade correction has been included in the Predicted Noise Level

Daytime construction noise criterion for residential premises : 75 dB(A)



YUEN LONG, KAM TIN,
 NGAU TAM MEI AND TIN SHUI WAI
 DRAINAGE IMPROVEMENT, STAGE1, PHASE 2B

Title :
 CROSS SECTION VIEW OF
 CONSTRUCTION SITE AND
 PROPOSED NOISE BARRIERS


 BLACK & VEATCH HONG KONG LIMITED
 博威工程顧問有限公司

Figure No. F1	Revision 0
Reference -	File Name 3820470201-143.DGN
Prepared MC	Checked KIL
Date MAY. 2006	Scale AS SHOWN

Plot Date : 22 MAY 2006