LWK & Partners (HK) Ltd

FAXED 18/7/2001

FAX TRANSMITTAL

ATTN. : Mr. Andy Chong

DATE : 18th July, 2001

TO : T. R. Hamzah & Yeang Sdn. Bhd.

REF. : #2222

FAX # : 6034561005

JOB NO. : 0042

FROM : Koman Cheong Yat Man

SENT BY : Maggie Lam

SUBJ. : Concept Plan Competition for the Development of an Integrated Arts, Cultural and Entertainment District at the West Kowloon Reclaimation, Hong Kong

TOTAL PAGES (including this page) : 8

If you do not receive all copies clearly, please contact us at tel.: 25741633 or fax 25724908

Re : PNAP No.77 MTRC Protection

Dear Andy,

Further to my e-mail dated 18 July 2001, I enclose herewith copy of the captioned PNAP for your information.

Thank you for your attention.

Best Regards,

Koman

Koman Cheong Yat Man

RL/TL/KC/AY/ml

w/ encl.

LWK & Partners (HK) Ltd

RL	EL
IF	RS
TL	RC
CL	NP
WC	PN
EP	LM
KL	TW
AM	CC
PL	AT
LT	TX
BW	TC
SC	BM
KC	AY
FILE NO:	0042
FILE CODE:	C
ACTION: *	

0001

9/F, Pacific Plaza, 410 Des Voeux Road West, H.K.
Tel: 852-2574 1633 Fax: 852-2572 4908
梁黃顧建築師(香港)事務所有限公司 香港德輔道西410號太平洋廣場9樓
www.lwkp.com lwk@lwkp.com

Mass Transit Railway Protection
Mass Transit Railway (Land Resumption and Related Provisions) Ordinance
Buildings Ordinance Scheduled Area No. 3

To safeguard the stability of Mass Transit Railway (MTR) structures, a "protection boundary" for the MTR has been drawn and a set of building/engineering guidelines produced. The areas within the protection boundary are commonly known as the railway protection areas. These areas are designated as Scheduled Area No. 3 delineated on the plans numbered MT/RP/1 to 21, MT/G/113, MT/RP/30 to 42, MT/G/115, MT/RP/50 to 65, MT/G/310, EHC/RP/1 to 5 and EHC/019 dated 17 March 1992 signed by the Secretary for Planning, Environment and Lands and deposited in the Land Registry in the Fifth Schedule under the Buildings Ordinance. Copies of these plans are available for inspection in the Buildings Department (BD) and the Mass Transit Railway Corporation (MTRC).

2. As a general guide, the protection boundary is about 30 m outside the outer surface of the MTR structures but it encompasses the whole of any lot where any part lies within the 30 m distance. At MTR stations, the area enclosed by the boundary is even more extensive. Information on the "alignment of the railway as constructed" may be obtained direct from the MTRC. Some information is also held by BD.

3. The guidelines at Appendix A apply to all building works (including ground investigation works and underground drainage works) to be carried out in Scheduled Area No. 3 and any new railway protection areas to be included in the scheduled area. Ground investigation works and underground drainage works in these areas are subject to additional control : see paragraph 9.

Building Works

4. Plans submitted to BD for proposed building works within the protection boundary are circulated to the MTRC under the centralized processing arrangements as appropriate and Mass Transit Railway (Land Resumption and Related Provisions) Ordinance section 15 will be invoked for necessary measures to protect the MTR.

5. Authorized persons (APs) and registered structural engineers (RSEs) are required to monitor movement and vibration on the MTR structures when required by the MTRC. Upon request by the MTRC, APs and RSEs should submit a copy of the monitoring information to them. APs and RSEs are required to inform the MTRC direct of the commencement of any building works within the protection boundary to enable them to plan an appropriate monitoring programme. If any adverse situation becomes apparent, the MTRC will alert interested parties.

/6. Any ....

6. Any other necessary monitoring within the building site (e.g. monitoring of piezometric change) will be carried out by the AP/RSE, who should maintain liaison with the MTRC and keep each other informed of the monitoring records as necessary.

7. The Director of Buildings may in writing, under the provisions of Mass Transit Railway (Land Resumption and Related Provisions) Ordinance section 12, authorize an employee of the MTRC to enter any building site within the protection boundary for the purpose of monitoring construction.

Building Opening adjacent to a Mass Transit Railway Vent Shaft

8. There are certain restraints on properties in close proximity to a MTR vent shaft to minimise the possibility of contamination by fire or smoke. In this connection, APs and RSEs are advised that any opening such as an openable or fixed window, doorway, building ventilation system intake or exhaust and the like in any building shall be located not closer than 5 m to the opening of any MTR vent shaft, irrespective of whether such vent shaft is free-standing or is accommodated in a building. This distance may be reduced to 2.5 m, if the exhaust air from the MTR vent shaft is directed away from and is not likely to affect the opening by natural convection.

Ground Investigation Works and Underground Drainage Works

9. Ground investigation works within Scheduled Area No. 3 require prior approval and consent. Plans prescribed under Building (Administration) Regulation 8(1)(*l*) should be submitted and the proposals should follow the guidelines at Appendix A. Underground drainage works in Scheduled Area No. 3 are also subject to the full provisions of the Buildings Ordinance.

(CHOI Yu-leuk)
Building Authority

Ref. : BD GP/BORD/67
BD MTU 29/78

First issued April 1981
Last revision June 1992
This revision March 1998 (AD/D)

Index under : Mass Transit Railway Protection
Scheduled Area No. 3

Technical Notes for Guidance in Assessing the Effects of Civil Engineering Construction/Building Development on Mass Transit Railway Structures and Operations

A. General

All proposals for new building and engineering works including utilities within the limits of railway protection as shown in the MTR Protection plans shall be subject to special scrutiny by Government. Each proposal shall be treated on its individual technical merits and subject to the requirements of the following Technical Guidelines.

B. Underground Railway Structures

1. Site Formation/Foundation Works

Where site formation or foundation works or excavation for basements etc. are proposed above or adjacent to MTR underground structures including cooling water mains, the effects of such works shall be within the following limits :

(a) The vertical or horizontal pressure on any underground structure due to the above works, including filling, dewatering etc. and due to additional loads transmitted from foundations (including loads arising during construction), shall not be increased by more than 20 kPa.

(b) Differential movement resulting from the works shall not produce final distortion in any MTR structure including the plinth or track in excess of 1 in 1 000 in any plane or a total movement in any MTR structure including the plinth or track exceeding 20 mm in any plane.

(c) The peak particle velocities at any railway structure resulting from blasting (where permitted) and from driving or withdrawing of piles or any operation which can induce prolonged vibration shall not exceed 25 mm/sec and 15 mm/sec respectively, when measured with a vibrograph.

(d) No pile, foundation, borehole or well shall be driven or constructed within a distance of 3 m in any plane of any point of the underground railway structures.

/(e) (i) Any ....

(e) (i) Any part of an anchor, if allowed, shall be more than 3 m from any part of a MTR installation.

(ii) The centroid of the fixed length of the anchor, if allowed, shall be more than twice the fixed length away from any tunnel installation.

2. Ground Investigation Works

Ground investigation proposals should point out :

(a) Details of the exploration and locations of the proposed exploration holes, trial pits, trenches, field testing or instrumentations relative to the MTR structures whether inside or outside the lot;

(b) Proposed depth of holes, pits or trenches;

(c) A method statement for sinking holes, excavating trial pits and trenches including back-filling, conducting field testing or installing instrumentation; and

(d) A method statement for checking verticality of holes within a distance of 10 m on plan of any point of the underground railway structure, should holes be sunk to a depth of 3 m from the highest point of the MTR structures.

Each proposal will also be judged against the following technical guidelines :

(a) The vertical and horizontal pressure on any MTR structure due to site investigation works including field testing such as plate loading test, pressuremeter test, packer test or any operation shall not be increased by more than 20 kPa;

(b) The peak particle velocities at any MTR structure resulting from :

(i) artificial shocks generated either by the detonation of explosives or a mechanical blow at ground surface or at depth within a hole shall not exceed 25 mm/sec; and

/(ii) percussion ....

(ii) percussion drilling, hammer drilling or any operation which can induce prolonged vibration, shall not exceed 15 mm/sec; and

(c) No holes, trial pits or trenches shall be sunk or excavated within a distance of 3 m from any point of the MTR structures.

3. Utility Trenches

Utility trenches which require excavation within the Railway Protection Area shall not be carried out without the approval of the Government in consultation with MTRC.

4. Marine Works Anchorage

Any reclamation, dredging, laying of pipes, or other engineering works to be carried out within the railway protection areas shall be submitted to the Government for approval in consultation with MTRC.

C. Overhead Railway Structures and Surface Section

1. Scaffolding, Advertising Signs, Projections

Erection of scaffolding or advertising signs or any projections at a level greater than 1 m above MTR tracks shall not be allowed from any structure within 6 m of the MTR tracks, without the consent of the Government. When such works are permitted to be carried out within the 6 m limit, effective measures to protect the railway structures shall be provided. According to individual circumstances it may be necessary for such works to be conducted outside MTR hours of operation. All protective works shall be to the special approval of Government and at the permittee's expense.

2. Overhead Structures

The requirements of paragraphs B.1(b), B.1(c), B.1(d) and B.1(e) should also apply to overhead structures.

/3. Utility ....

3. **Utility Works**

(a) When cables and pipes, etc are to cross above or below MTR overhead structures, the Utility Undertaking shall submit to the Government details of the cables, pipes and the method of construction and seek special approval before work can commence. When cables and pipes, etc are to pass over the railway, the provision of paragraph C.1 shall apply.

(b) When utility works are to be carried out across the MTR track at ground surface level, approval from the MTRC has to be sought.

4. **Operation of Stationary Lifting Appliance (tower crane, hoist, piling/drilling rigs)**

(a) When such an appliance is erected adjacent to MTR tracks and overhead structures, effective measures to protect the MTR structures shall be provided. According to individual circumstances it may be necessary for such works to be conducted outside MTR hours of operation. All protective works shall be subject to special government approval and at the permittee's expense. In addition the Government may impose conditions on the operation and positioning of the appliance if in its opinion such operation and positioning may endanger the safe operation of the MTR.

(b) The arc in which the jib of lifting appliance swings shall not encroach within 6 m of the MTR tracks and overhead structures on plan except with special Government approval.

5. **Mobile Lifting Appliance**

Where a mobile lifting appliance (e.g. cranes, excavator) operates within 6 m on plan of MTR structures and any part of the appliance to higher than the MTR track level, the provisions of paragraph C.4 shall apply.

6. **Maintenance of Road Lamp Standards**

When road lighting tower maintenance vehicles are to be used to service road lamp standards adjacent to MTR tracks, the working equipment shall not be positioned closer to the MTR tracks than the nearest part of the road lamp standard where the height of the lamp standard is greater than the height of the tracks. If the working equipment is to be operated at a level higher than 1 m above MTR tracks and closer than 6 m from the MTR tracks, provisions as in paragraph C.1 shall also apply

/7. Fire ....

7. **Fire Services Department/Police Force Vehicles**

The operation of Fire Services/Police vehicles adjacent to the MTR tracks or vent shafts under emergency situations shall be in accordance with the emergency procedure agreed between MTRC and the respective organization.

8. **Storage of Materials**

(a) No materials, containers, etc. shall be stored within 6 m on plan of the MTR tracks and vent shaft openings except with the special agreement of Government.

(b) No dangerous goods or other inflammable materials shall be stored within 6 m on plan of MTR structures except with the special Government approval.

9. **Demolition Works**

Where demolition and removal works for any structure which includes scaffolding, advertising signs, container offices and buildings are proposed above or adjacent to MTR above ground structures, such as entrances, vent shafts, distribution substations, traction substations, plantrooms, overhead railway structures and surface track sections, effective measures to protect the railway structures shall be provided. The APs or registered building contractors are advised to approach the BD and/or the MTRC directly before commencing any of the above works.

Ref. : PNAP:77
PNRC:14