

Prof. Dr. Wanbil W. Lee (李雲彪教授 工程師)

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6 July 2009

Mr Malcolm Gibson
Head of Project Engineering
MTR Corporation Limited
(via email)

cc Hon Miriam Lau Kin-ye, GBS, JP
Hon Kam Nai-wai, MH
Hon Alan Leong Kah-kit, SC
Members of OC, The Belcher's, present at meeting
Members of External Affairs Subcommittee, The Belcher's, present at meeting
Senior Estate Manager, The Belcher's
Ms Winnie Cheng, LegCo Secretariat
Mr ML Wan, Highways Department

Dear ~~Mr Gibson~~: *Malcolm*

Mass Transit Railway (MTR) Western Island Line (WIL)
Grave Impact on The Belcher's
Our Meeting, 4:30-6:15PM, 30 June 2009 and your letters of 3rd and 17th June 2009

I must thank you and your team for visiting and meeting with me on the captioned in the presence of the Chairman and the Secretary of External Affairs Subcommittee (The Belcher's Owners Committee), Manager (The Belcher's Management Office), and members of the Owners Committee and the External Affairs Subcommittee. So, I must thank you on their behalf. I shall address the meeting first, and then your letters of 3rd and 17th June 2009.

The meeting

I must say right at the outset that I am disappointed and dissatisfied that you came to us with a forgone conclusion rather than an open mind for discussion or listening to us.

- 1.1 Your foregone conclusion is to construct tunnels right underneath our buildings that you want us to acquiesce. (See Exhibit A which was presented to us in a meeting by Mr Yip of your organization on 23 April 2009.)
- 1.2 You turned a deaf ear to our request for consideration of alternative locations for the tunnels and our reasons for that request.
- 1.3 You ignored the site we suggested as an alternative even after your personal on-site inspection. (See Exhibit B which is reiterated here for your convenience.)
- 1.4 You remained tight-lipped to our request for evidence of your claim that alternative sites had been considered.

- 1.5 You claimed that many alternatives were considered. However, the Hon Miriam Lau Kin-ye said in answering our question on this issue in a meeting with us on 8 June 2009 that she had never received any alternative plan and she was very clear and affirmative about this point. How do you explain that?

Overall, you did not settle satisfactorily my points of contention which are reiterated as follows:

- 2.1 Why did you decide on setting $D = 10\text{m}$? Any scientific evidence, empirical or theoretical?
- 2.2 Why didn't you consider the risks due to grafting effect at interface between old and new concrete in refilling temporary construction tunnel?
- 2.3 $\text{EIA} \neq \text{Risk Analysis}$. Your team led me to the EIA report released as appendix 10.1 at the web address:
http://www.epd.gov.hk/eia/register/report/eiareport/eia_1532008/EIA_pdf....,
From this report, I find that the so-called quantitative risk analysis focuses on risks associated with the explosive used, not on risks due vibration that will impact adversely on the structure of our buildings.
- 2.4 Cost-Benefit Analysis and nowadays Risk Analysis are done as part of feasibility study done at start of project planning. But we were told they would be done only when project implementation starts. Why do you defy good Project Management principles?
- 2.5 Who pays for monitoring vibrations by an independent contractor that you mentioned? How can we know it's a fair and just opinion?
- 2.6 A tried and proven method \neq zero accident; we want zero-defect; we worry about latent damages to structures and hairline cracks in our walls. Can you guarantee zero risk?

We have in conclusion good reasons to request that the tunnels as proposed by MTR be located away from The Belcher's:

- 3.1 Locating the temporary Construction Tunnel underneath our buildings is **UNREASONABLE & DANGEROUS**.
- 3.2 Constructing the Pedestrian Subway is **DANGEROUS AND AVOIDABLE**.
- 3.3 Any attempt to make rectifying/correcting the problem at The Belcher's as an excuse for delay to WIL progress is **UN SOUND** because we had expressed our concern and dissatisfaction at everyone of the so-called public consultation sessions with us since the beginning. If they were really genuine two-way consultation sessions, the problem should not be allowed to emerge at this stage. The onus is on MTR.

Your letters dated 3 June 2009

I did not elaborate "my difficulty with your letters" in my letter to you on 23 June 2009 because I hoped it could be resolved in our meeting on 30 June 2009. Disappointingly, the issues involved remained unsolved or satisfactorily addressed.

Your letter dated 3 June 2009

It is full of officialese, conveying nothing new and leaving points of contention ignored. This makes us even more worried.

4.1 Your claim of having many public consultations distorted and corrupted. We at The Belcher's were not properly consulted about the construction of the tunnels underneath the foundation of our buildings; your staff was evasive all the ways until the meeting held on 23 April 2009 about the location and the number and function of the tunnels; we were aware of MTR's intended acquisition of our land for the purpose of constructing the WIL but we did not give such consent, rather we objected to such an idea. In sum, your public consultative process is questionable and suspiciously deceitful and deceptive.

4.2 Safety

4.2.1 I agree that "the WIL tunnels will pass several hundred buildings". However, none of these buildings is as tall as, and much, much shorter than, The Belcher's buildings and situated in a heavily windy zone (thus more vulnerable towards vibration). You may say, and I agree, that there are many residential blocks are built on top of a MTR station. However, these residential blocks were planned prior to, or at the same time as, the design and construction of the MTR tunnels; The Belcher's is there already so it is completely different from all those other residential blocks. Therefore, your claim that "this has also been done for almost all other previous MTR projects" is a generalization not justified and dangerous to make.

4.2.2 What evidence can you produce to prove "good quality rock" [on which The Belcher's sits]?

4.3 Blasting

4.3.1 If performing an EIA means that you have met government regulations for safety, then it is an abysmal mistake. By your own admittance, the parameters include only risk factors related to transport, storage and use of explosives, not anything related to potential threats to the structure and foundation of the buildings directly above the sites of blast. We are sitting over two huge holes (see Diagram A). How can we feel safe? How you claim we are safe?

4.3.2 That you rely on mitigation measures and "after-the event" remedy is insensitive. We want zero-risk. Should anything adversely happen to The Belcher's during or after the construction, compensation may amount to bankrupt MTR. Not that we focus on insurance, but since you and your staff mentioned so freely about it. Can you give us more details on this issue, please?

4.4 Purpose of the tunnels

4.4.1 My view of how the tunnels are used is based on the information provided by your staff. If my understanding is not correct, then it is because I was given incorrect information. Hence, I am logically correct, and this reinforces my claim of difficulty with your letters before and demonstrates the problems with your public consultative process.

4.4.2 Holding pedestrian subway a separate issue, exploiting The Belcher's for removing excavated rock and transporting other materials (i.e., constructing your temporary

construction tunnel) is no different from rubbing salt into wound in our case. It is totally unfair and unreasonable.

- 4.4.3 I can't agree with your claim that "the construction tunnel will ... add to overall cost of the WIL project". How much will this add to the overall cost? Please stop using this to confuse the argument and substantiate your claim on this point.
- 4.4.4 That you ignore my warning about the additional risk due to refilling the temporary construction tunnel will bring about consequences we don't want to see. According to the report in the media on 4 June 2009, one of the three main reasons for the topping of a whole block of residential buildings in Shanghai was the excavation underneath those building for the construction of underground car park. This should serve as a severe and awakening warning to your design.
- 4.5 Alternative alignment
- 4.5.1 The residents at The Belcher's never expressed any opinion for an entrance; they did not have a chance as they were not properly consulted on the issues. In fact, some expressed the willingness of having the entrance located somewhere away from The Belcher's in order to avoid the risk and threat. Therefore, your claim that "the residents at the Belcher Street have expressed a strong desire for an entrance" does not include those living in The Belcher's, and is thus incorrect.
- 4.5.2 In fact, the alternative location for the said entrance will enhance the number of Belcher Street residents in general that MTR aims to serve.
- 4.5.3 Based on my layman's observation, there is no significant building, residential or otherwise, along the alternative route we suggested. While engineers from HD and your organization admitted to us that it was technically feasible, I cannot understand why you claimed that my proposed alternative was not feasible. I would not accept such a unilateral, biased, and somewhat brutal claim. Please provide empirical and objective evidence to substantiate it..

Your letter dated 17 June 2009

The trouble you took to address the point about the mathematical argument, which I appreciate, leads unfortunately to you arguing against yourself when it came to the Li-Ng formula of Vibration Prediction, which is restated as follows:

$$PPV = 644 (D/\sqrt{W})^{-1.22}$$

- 5.1 You admitted its validity by saying that it was empirically "derived from a large number of blasts" carried out for various applications in various parts of Hong Kong and has been adopted by the construction industry in assessing blasting vibration since 1992, and by arguing that my assertion in the case the WIL tunnels "that the distance between the blasting and The Belcher's development is zero, is incorrect".
- 5.2 However, after having heard my explanation, you replied that you used the formula only during planning, and would not use it afterwards. My explanation goes as follows: in mathematical language, when taking limit of both sides and an equation as a selected variable becomes so small, it is expressed by the phrase "approaching zero; the actual value for that variable is in fact zero or small in relative terms with respect to some factors in the environment. In this case, the distance is 10m (your data), and the Belcher's building above is 230m. We are talking about a scale of

23:1. (See Diagram A which is reiterated here for your convenience.) As can be seen in the following computation:

$$\lim_{D \rightarrow 0} \{PPV\} = \lim_{D \rightarrow 0} \{644 (D/\sqrt{W})^{-1.22}\} \rightarrow \infty$$

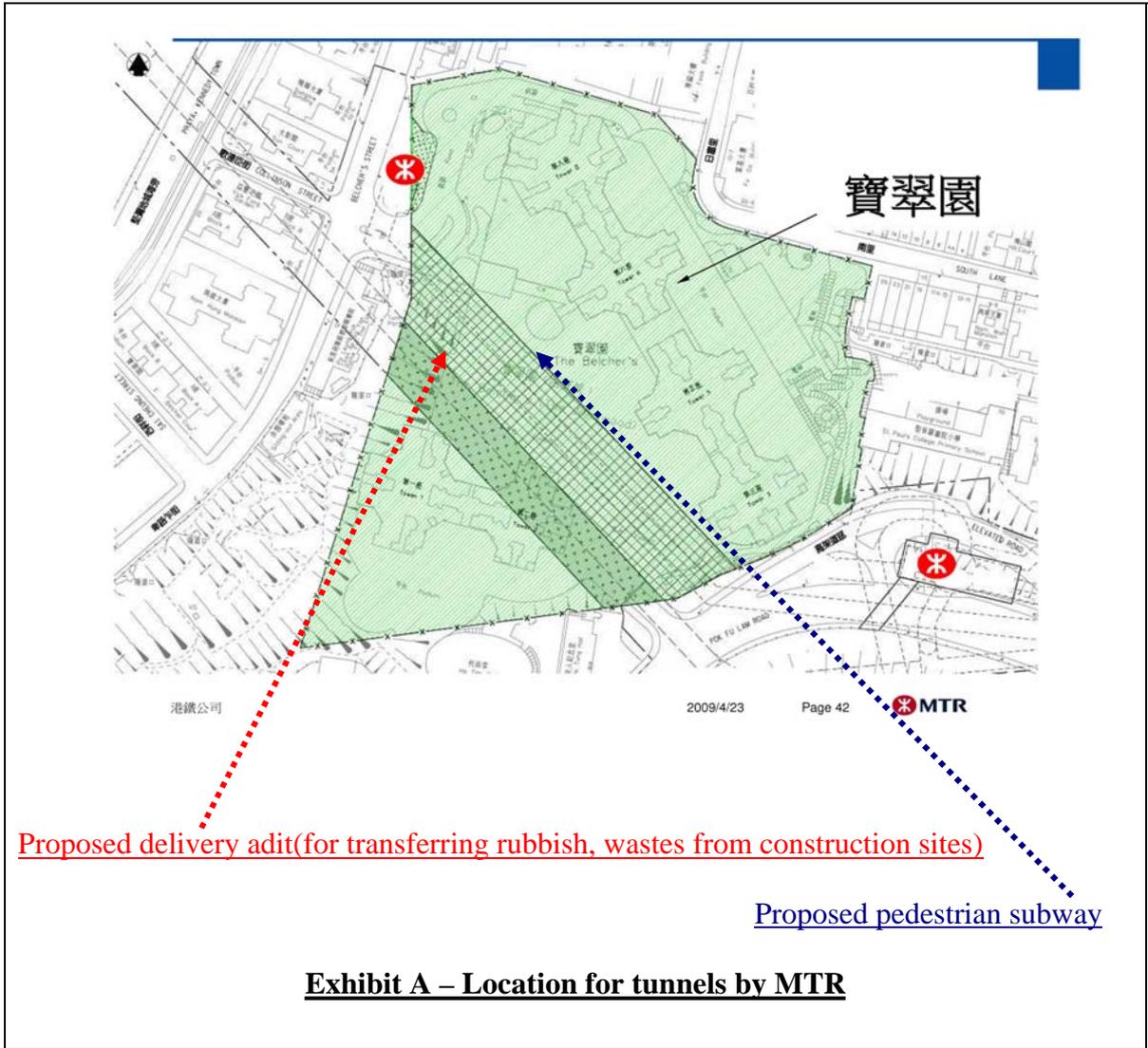
- 5.3 The enormity is demonstrated by the enormous vibration produced by the blast when the distance of interest is relative small, whatever the amount of explosive used. The interpretation of this result tells us that if anything that is theoretically unviable, then how can we expect practical viability?
- 5.4 **If it is shown right at the planning stage there is enormous risk, then wouldn't it be reasonable to include alternatives in the plan? If as you claimed the calculation was used only as an indication for planning and the result is ignored, then why do you bother about that formula and carry out the computation?**
- 5.5 **The Hon Miriam Lau declared categorically that there should be no public project that would put any citizen's life and property at stake, or there will be no such public project no matter what the perceived benefit, if any, is. Since you decide to ignore this result shown in Paragraph 5.2, and admitted that you couldn't guarantee zero risk, you should consider an alternative, or you should consider our proposed alternative, else you will put us at stake.**
- 5.6 Comparing The Belcher's with Quarry Bay, North Point, Lai King, etc is like comparing apples and oranges. Our height and windy condition differentiate The Belcher's from all others. You should also check and tell us the limit of height of the buildings in the vicinity of the area of interest. I understand that any work under those buildings beyond that limit is illegal and prohibited.

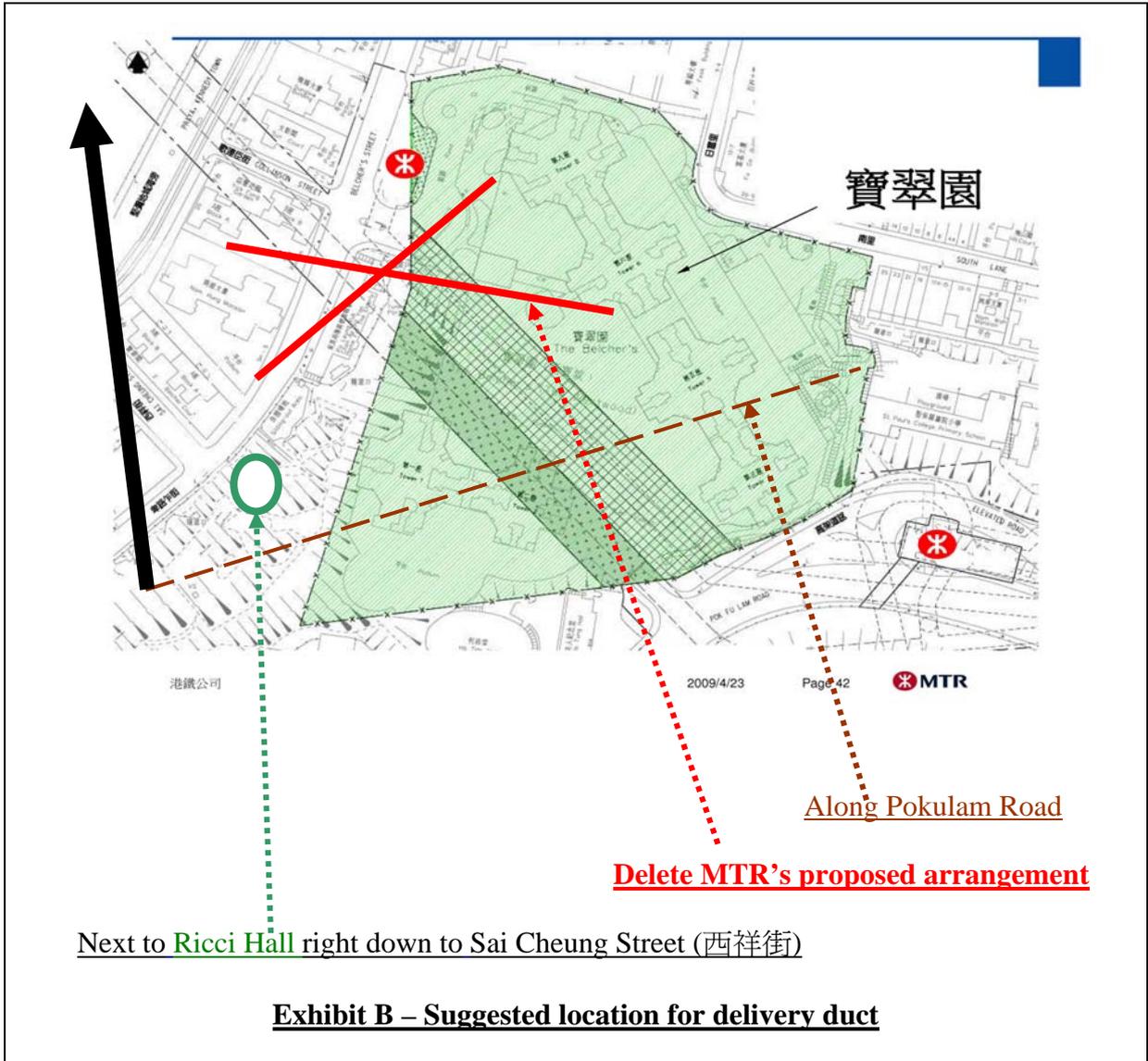
I therefore ask you to address the points I raised in sections 1 to 5 in this letter, and reconsider the position you have taken and

- 6.1 **Provide evidence of the alternatives that you claimed to have considered and the reasons for their rejection.**
- 6.2 **Examine our proposed alternative site, and give us your reason to reject it if that's the case.**
- 6.3 **Show us that The Belcher's is in fact included in the list of risk factors in your risk analysis if you still claim that you have done one.**

I look forward to hearing from you soon.







Next to Ricci Hall right down to Sai Cheung Street (西祥街)

Delete MTR's proposed arrangement

Along Pokulam Road

Exhibit B – Suggested location for delivery duct

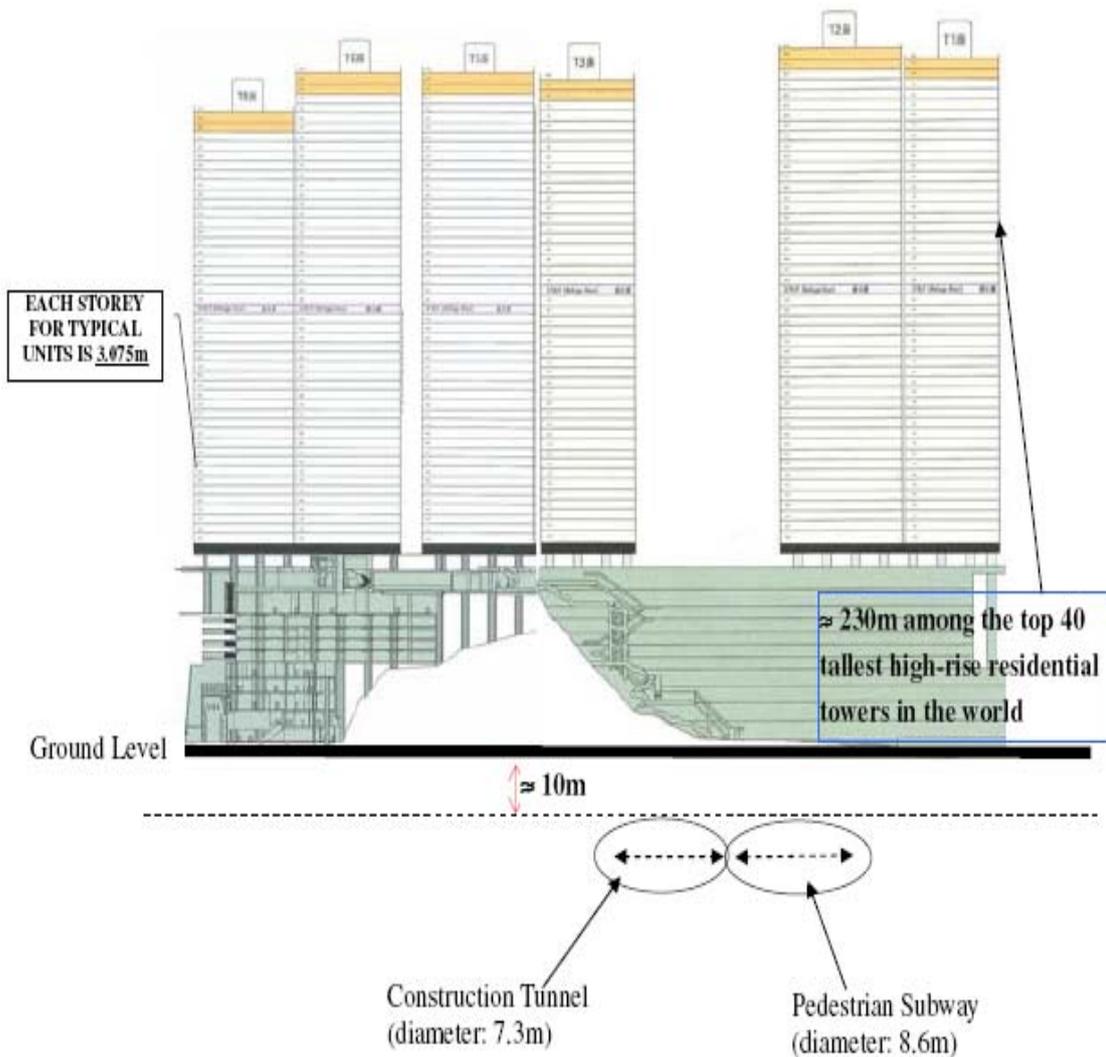


Diagram A

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Mr ML Wan, Highways Department (via email)

Dear Malcolm:

Amendment to my letter of 6 July 2009

I refer to Paragraph 5.6 of my letter which was sent to you a couple of hours ago, and wish to amend this paragraph as it just occurs to me that I was misinformed about the point made in the last part of that paragraph. It should therefore be deleted as follows:

5.6 Comparing The Belcher's with Quarry Bay, North Point, Lai King, etc is like comparing apples and oranges. Our height and windy condition differentiate The Belcher's from all others. ~~You should also check and tell us the limit of height of the buildings in the vicinity of the area of interest. I understand that any work under those buildings beyond that limit is illegal and prohibited.~~

The correct wordings should thus be:

5.6 Comparing The Belcher's with Quarry Bay, North Point, Lai King, etc is like comparing apples and oranges. Our height and windy condition differentiate The Belcher's from all others.

Please amend the original version accordingly or read the original in conjunction with the amended item. I am sorry for any misunderstanding or confusion that this may have caused, and thank you for your attention.

Wanbil
