

**COMMISSION OF INQUIRY INTO THE DIAPHRAGM WALL AND PLATFORM
SLAB CONSTRUCTION WORKS AT THE HUNG HOM STATION EXTENSION
UNDER THE SHATIN TO CENTRAL LINK PROJECT**

**WITNESS STATEMENT OF MA MING CHING DEREK
FOR
MTR CORPORATION LIMITED**

I, **MA MING CHING DEREK**, of MTR Corporation Limited, MTR Headquarters Building, Telford Plaza, 33 Wai Yip Street, Kowloon Bay, Hong Kong, **WILL SAY AS FOLLOWS:**

1. I first joined MTR Corporation Limited (“**MTRCL**”) in June 2013 as a Construction Engineer I – Civil (“**ConE I**”) for the West Island Line, and I remained in that position until January 2015. From January 2015 to July 2018, I was ConE I for Contract 1112 on the Shatin to Central Link Project (“**SCL Project**”).
2. I am currently a Technical Manager in MTRCL’s Property Division, and I have been in this role since July 2018.
3. I obtained a Higher Certificate in Civil Engineering from the Hong Kong Polytechnic University in 1992, and in 1999 I obtained a bachelor’s degree in Civil Engineering from the University of Calgary, Canada. I am a Chartered Structural Engineer of the Institution of Structural Engineers in the UK; a Chartered Engineer of the Engineering Council in the UK; a Member of the Hong Kong Institution of Engineers; and, a Registered Professional Engineer of the Engineers Registration Board in Hong Kong.
4. I am providing this witness statement in response to various matters raised in a letter dated 27 July 2018 from Messrs Lo & Lo, Solicitors, who I understand are the solicitors acting for the Commission of Inquiry into the Diaphragm Wall and Platform Slab Construction Works at the Hung Hom Station Extension under the SCL Project (“**Commission of Inquiry**”). The matters raised in the letter (“**Letter**”) which I will

deal with in this witness statement are those listed as items 4, 8(a), 8(d), 11(d), 11(p), 12(a)-(b), 12(d) and 13(b)-(c) of the Letter.

5. While I am aware of the matters raised in items 4, 8(a), 8(d), 11(d), 11(p), 12(a)-(b), 12(d) and 13(b)-(c) of the Letter based on my first-hand observations and personal involvement in the SCL Project from June 2013 to March 2018, and I confirm that this statement is true to the best of my knowledge and belief, there are occasions when I can only speak to matters by reference to MTRCL's documents, in which case I believe the contents of the same to be true and accurate.

Item 4: Please provide as an exhibit to the witness statement a list of the managers, supervisors and inspectors (with names and contact details) employed or engaged by Your Company who were involved in the steel fixing works and the construction of the steel structures within the diaphragm walls and platform slabs. Identify the type of work and duties undertaken by such managers, supervisors and inspectors.

6. I have read paragraphs 7 to 13 of the witness statement of Mr. James Ho in draft which explains the overall role of the ConE and IOW teams on the SCL Project, with which I agree. I will therefore confine myself to addressing the role of a ConE I in Contract 1112 on the SCL Project, and my interaction with Mr. James Ho (Senior Construction Engineer ("SConE")), Mr. Louis Kwan (ConE II), and the Inspectors of Works ("IOW").

(i) Responsibilities under the Site Supervision Plans

7. At the construction stage, MTRCL takes on a project management and supervisory role, monitoring the safety, progress, quality and cost of the SCL Project. As ConEs, we were responsible for carrying out these tasks on the frontline.
8. I understand that the nature and preparation of the Site Supervision Plans ("SSP") which were submitted to the BD for the diaphragm wall and EWL slab works are discussed in detail in paragraphs 8 to 13 of the witness statement of Mr. Louis Kwan, the draft of which I have reviewed. I agree with what Mr. Kwan has said in his witness statement.

9. In summary, under the SSPs, MTRCL's technically competent persons ("TCPs") are responsible for quality and safety supervision. The SSPs were prepared by Mr. Kwan. As far as the EWL slab works were concerned, Mr. James Ho (Senior Construction Engineer) ("SConE") was the T5 TCP and he formulated and determined the division of labour between the T3 TCPs, that is, between myself and Mr. Kwan.¹ If there were any issues on site, Mr. Kwan and I would report directly to Mr. Ho, who would in turn consider the matter and decide the next steps.
10. As T3 TCP alternatives for the EWL slab works in Areas B and C (which meant that Mr Kwan and I were collectively responsible for discharging the duties of a TCP of grade T3 and filled in for each other when one of us were not available), Mr. Kwan and I were required to supervise the safety of the works and carry out site surveillance² activities at least four days per week between the two of us. This meant that one of us had to go on site and look at whether the works were carried out in accordance with the method statement for Area B and C1 of the EWL slab. When carrying out hold-point inspections of the rebar fixing works, it was necessary to look at the working drawings issued for construction by Team A of Atkins China Ltd ("Atkins A"), MTRCL's Detailed Design Consultant (not to be confused with Team B of Atkins ("Atkins B"), who acts as LCAL's consultant).
11. Mr. Kwan is my subordinate as a matter of hierarchy. We were alternative T3 TCPs and we each focused on different areas of the works to avoid a duplication of labour. Mr. Kwan is a professional engineer with sound judgment, and he is perfectly capable of making his own professional judgment independently. However, if there were any major issues observed on site e.g. serious non-conformances and changes in the design, he usually (and very properly) discussed those issues with me.
12. Neither Mr. Kwan nor I dealt with the sub-contractors directly. It was LCAL (according to its own Quality Assurance Plan) who was responsible for full-time site supervision of its own works and the works of its sub-contractors, and it was LCAL

¹ I refer to paragraph 9 of the witness statement of Mr Kwan (with which I agree), where he explains the different grades of TCPs and the framework of the SSPs.

² See PIMS/PN/11-4/A5, 'Monitoring of Site Works', paragraph 5.7.1: '*Site surveillance is to be carried out by site inspectorate teams to monitor day-to-day site works of the Contractor. The intention is to have site issues identified early for prompt remedial action by the Contractor, in additional [sic] to and prior to the formal inspection of the Works [...]*'.

who submitted Request for Inspection / Survey Check (“**RISC**”) forms and requested MTRCL to inspect the rebars at the relevant hold-points. When carrying out routine site surveillance (that is, outside of hold point inspections), we went on site (taking with us the working drawings issued by MTRCL’s design management team to LCAL for construction) to spot-check the works, with a specific focus on structurally important areas e.g. the cantilever structure. If we had any comments or concerns, those would be conveyed to LCAL who would then deal with its sub-contractors as appropriate, and we would check the installations against the working drawings after the issue had been dealt with by LCAL and its sub-contractors.

(ii) General responsibilities of a ConE I and a ConE II

13. The division of labour between myself (ConE I) and Mr. Louis Kwan (ConE II) in relation to the EWL slab works was broadly as follows:

13.1. Mr. Kwan was the ConE II who was responsible for inspecting the rebar fixing works in Areas B and C1 at the relevant hold-points and for quality control, such that the RISC forms for the rebar fixing works were filled in and signed off by Mr. Kwan. However, I am aware that Mr Kwan ended up inspecting Areas C2 and C3 as well (apart from bays C3-2 and C3-3 which were inspected and signed off by Mr Jeff Cheung) because Mr Kingsley Lam and Mr Jeff Cheung were not available at the time, as explained in paragraph 47 of the witness statement of Mr Kwan.

13.2. I, as the ConE I responsible for Areas B and C1, took on a more high-level role and co-ordinated with LCAL on various matters such as design details and site progress. Therefore, I had much less involvement than Mr. Kwan in carrying out hold-point inspections on site and signing off the RISC forms. That said, apart from the site surveillance and inspections conducted by Mr Kwan every week, I personally went on site at least twice a week to carry out site surveillance which was over and above the minimum frequency of site visits required by the SSPs.

14. On a more granular level, my day-to-day responsibilities as a ConE I included the following:

- 14.1. Considering safety as the primary objective at all times, and managing safety issues arising on site to ensure compliance with statutory and corporate requirements (e.g. the Project Health and Safety Manual).
- 14.2. Supporting LCAL as much as possible to enable the works to be successfully implemented.
- 14.3. Monitoring the progress of the works and reporting to the SConE when delay to any critical date or milestone is likely to occur.
- 14.4. Ensuring that the works will not adversely affect the Operating Railway.
- 14.5. Technical supervision of LCAL to ensure compliance with the contract requirements in terms of compliance with working drawings and technical specifications, including handling and resolving LCAL's submissions and queries (as set out in Requests for Information ("RFI") or otherwise).
- 14.6. Carrying out site surveillance activities to identify any non-conformance related to the quality, safety and environmental issues, drafting non-conformance reports ("NCR") for SConE's review before being issued by the Construction Manager to LCAL where appropriate, and working with LCAL to develop and implement corrective measures.
- 14.7. Coordinating with Government departments, utilities companies, interfacing and designated contractors to ensure smooth delivery of the SCL Project.
- 14.8. Drafting letters, Engineer's Instructions, responses to RFIs, and NCRs together with the ConE II (Mr. Louis Kwan), as and when required by the SConE.
- 14.9. Ensuring that the submission of test reports, monitoring results, and as-built documents are in compliance with Government and corporate requirements in terms of timing, format and content.

15. In terms of preparation of reports and attendance at meetings on a regular basis for Contract 1112 on the SCL Project, I recall generally that:

15.1. I was involved in the preparation of Mr. James Ho's weekly written reports to the Project Manager (Mr Brendan Reilly) and the General Manager–SCL Civil–NSL (Mr Aidan Rooney), which generally focussed on the progress of the works. For those reports, Mr Louis Kwan and I fed information to Mr. Ho, as did the members of the other two ConE teams under Mr. Ho.³ After all three teams of ConEs had provided their input, Mr. Ho would conduct a final review of the information provided by the ConEs before submitting the reports.

15.2. In addition to my involvement in reports/meetings as and when required by the SConE, I attended:

15.2.1. Weekly '*1112 CM Team Meeting*' with MTRCL's Construction Manager, SIOW, all the ConEs – in those meetings, we would generally discuss the progress and safety of the works.

15.2.2. Weekly Works Meetings with LCAL's Construction Manager, Site-Agent and other relevant engineers – these meetings were chaired by MTRCL's Construction Manager, Mr. Kit Chan, until his departure from the SCL Project in May 2016, after which time Mr. James Ho (SConE) took over as Chair, and the meetings were attended by MTRCL's ConE team and the SIOW. These meetings were about progress generally.

15.2.3. Weekly DM/CM Coordination Meetings, which were chaired by the MTRCL's Construction Manager and attended by our ConE team and Design Management Engineers ("DME") I and II. Mr. Andy Leung, the Design Manager for Contract 1112, also attended some of these meetings. These meetings discussed RFIs, submissions, and the progress of the works on site generally.

³ There were three teams of ConEs under Mr Ho, and as far as the EWL slab works were concerned, these three teams were responsible for (i) Areas B and C1; (ii) Areas C2 and C3; and (iii) Areas A, A2 and Hong Kong Coliseum respectively.

- 15.2.4. Some of the bi-weekly/monthly Planning and Development Department and Operations Meetings (when the SConE, Mr. James Ho, was unavailable), which concerned the progress of the works in each area and reporting of special incidents e.g. a small fire on site.
- 15.3. Quality matters were not specifically discussed at the meetings referred to above if there were no particular concerns, and having reviewed my records within the limited time available, I do not recall that there were any reports or discussions regarding the cutting of threaded ends of rebars.
16. I did not keep any personal site diary of my site surveillance activities, as that was the IOWs' responsibility. I did take photos on my phone for aspects of the work which may require further discussion and very often for the purposes of preparing progress reports (see, for example, **Image 1** below which was taken on 23 September 2015). I would always download the photos from my phone onto the hard drive of my desktop computer at the site office, as it was more easily accessible and would not be affected by network issues. Once the photos have been stored on my desktop, I would delete the relevant photos from my phone in order to free up more storage space on my phone.



Image 1: Bottom layer rebars in Area C1 of EWL slab (West)

Item 8:

- (a) Explain and confirm whether Your Company has any knowledge of the Defective Steel Works (whether undertaken by Leighton and/or its sub-contractors) and if so, identify and describe the relevant events and occasions.**
- (d) If the events and occasions were reported to you by your managers, supervisors, inspectors and/or other persons, identify the person(s) who made the reports to you.**

17. I refer to the witness statement of Mr Kobe Wong (paragraphs 66 to 88), who has personal knowledge of the incidents when threaded ends of rebars were found to be cut off. I do not have any personal knowledge of any of these incidents.
18. As far as I can recall, there were no reports from the IOWs or otherwise about incidents relating to the cutting of threaded ends except for Mr. Kobe Wong's email of 15 December 2015 to LCAL, which reported that an Assistant IOW found five threaded ends of rebars at the bottom layer of the EWL slab in Areas C3-2 or C3-3 which were wire-cut and were not fully or correctly screwed into the couplers – that was the first and only time I was aware of the unauthorised cutting of threaded ends of rebars. I was copied into this email at the time, as was Mr Louis Kwan (ConE II) and Mr Jeff Cheung (ConE I) (among various other employees of MTRCL and LCAL).
19. Although I received Mr. Wong's email dated 15 December 2015, I did not follow up on the matter as Area C3 was beyond my remit (being Areas B and C1 only). I believe that Mr Wong copied us in for our information only, as Areas C2 and C3 were the responsibility of Mr Jeff Cheung and Mr Kingsley Lam. After this incident, I do not recall any specific instructions in the ConE meetings for the ConEs to look out for non-compliant rebars or couplers.

Item 11(d): Confirm whether Your Company has any additional information and materials to supplement the MTRCL Report and if so, please adduce such additional information and materials by way of a supplemental report.

(i) Coupler checklists

20. As per the requirement of the BD's approval letters dated 25 February 2013⁴, 5 February 2014⁵ and 4 September 2014⁶ respectively ("**BD Approval Letters**"), BOSA/LCAL prepared a '*Quality Supervision Plan on Enhanced Site Supervision & Independent Audit checking By MTRC & RC for Installation of Couplers (Type II – SEISPLICE Standard Ductility Coupler)*' ("**QSP**"). This QSP was submitted to the BD by MTRCL's Design Manager, Mr. Andy Leung, on 12 August 2013.

⁴ Paragraph 3 of Appendix VIII.

⁵ Paragraph 3 of Appendix IV.

⁶ Paragraph 3 of the letter, which states that (among other things) Appendix VIII of the letter dated 25 February 2013 is still applicable.

21. I did not personally carry out any hold point inspections in respect of the construction of the EWL slab, and at the time of the EWL slab works in 2015/2016, I was not aware of the requirements under the QSP in respect of record-keeping. This was because there was no special induction or meeting discussing the QSP requirements after I joined Contract 1112 in February 2015, and prior to that, I had no previous experience in the supervision of coupler splicing assemblies.
22. With the benefit of hindsight, I believe that this is an area for improvement in future projects involving coupler splicing assemblies, and the ConE team and I would have to pay extra attention to monitoring compliance with any enhanced supervision requirements in respect of such splicing assemblies.
23. Having had the opportunity to review the QSP after the initial media reports on 30 May 2018 concerning the cutting of rebars, I note that section 5 (Supervision on Site Works) of the QSP states (among other things) as follows:

‘1. Supervision and Inspection by RC on site – installation works

- i. Quality Control Supervisors (RC) will [sic] responsible to carry out full time and continuous supervision of the splicing assemblies on site.*
- ii. Supervision and inspection will be recorded in the Record Sheet (appendix [B])⁷ and write [sic] into the inspection log book by Quality Control Supervisors (RC).*

[...]

2. Supervision and Inspection by MTRC on site – installation works

- i. Frequency of quality supervisors should be $\geq 20\%$ of the splicing assemblies by MTRC T3.*
- ii. Quality Control Supervisors (MTRC) will record the inspection by countersigning the inspection Record Sheet and put it in an inspection log book.*

[...]

24. As at the end of May 2018, I had not seen any quality control supervisor record sheets or inspection log book for the EWL slab from LCAL purporting to comply with the

⁷ Although the QSP refers to ‘appendix C’, it is likely to be a typographical error, as appendix C is an inspection record for thread preparation, whereas the relevant record sheet for ‘installation works’ should be the record sheet in appendix B of the QSP.

requirements of the QSP as referred to above, or in fact, any record sheets or log books generally relating to coupler splicing assemblies in the EWL slab.

25. On 30 May 2018, shortly after the initial media reports alleging defective rebar fixing works and the cutting of the threaded ends of rebars were published, Mr. Francis Mok of the Railway Development Office (“**RDO**”) emailed me at 23:47 (following discussions we had on site earlier that day) requesting various documents and records, including *‘inspection forms/records for rebar fixing before concreting (including fixing the bars to couplers) and placing concrete’*, and the *‘QSP for couplers showing the whole procedure and signed forms for installation on site’*. This email was copied to (amongst others) Mr. James Ho, Mr Michael Fu and Mr. Jason Wong of MTRCL.
26. On 31 May 2018, I emailed Mr. Fu and Mr Ho at 12:01 and attached the QSP, the RISC forms for Area C rebar fixing works and the method statement for Areas C2/C3 for their review, before sending them to the RDO. I also informed Mr. Fu and Mr. Ho that *‘LCAL cannot provide the signed forms for coupler installation’*, despite our requests to LCAL to provide such records (as our understanding from the wording of section 5 of the QSP was that the requisite record sheets under the QSP were meant to be prepared by LCAL and provided to MTRCL to countersign).
27. From 4 June to 8 June 2018, representatives of the BD, RDO and Pypun Engineering Consultants Ltd (“**Pypun**”) visited the Hung Hom site office in order to inspect the records associated with the rebar fixing works and coupler splicing assemblies in Contract 1112 on the SCL Project.
28. Mr. Kine Tong, a colleague from Contract 1123, was assigned by Mr. Michael Fu (Construction Manager) to assist and deal with the representatives from BD/RDO/Pypun. Whenever the BD/RDO/Pypun representatives asked MTRCL to provide records or information for inspection, Mr. Fu directed Mr. Louis Kwan, Mr. Arthur Wang and me to look for the records and information, and we provided the relevant records to Mr. Tong to be presented to the BD/RDO/Pypun representatives.
29. I remember clearly that the BD/RDO/Pypun representatives wished to inspect the RISC forms associated with the construction of the EWL slab. MTRCL therefore

asked LCAL to produce a full set of RISC forms for all 32 bays of the EWL slab for inspection. I was informed by my colleague, Mr. Arthur Wang, that a photocopy of the set of RISC forms kept by LCAL on site was produced to the BD/RDO/Pypun representatives for inspection. At that time, I did not review the RISC forms and attachments provided by LCAL.

30. Having now had the opportunity to review the RISC forms produced by LCAL, I note that each RISC form produced by LCAL was stapled together with a number of attachments – these attachments included (among other things) certain checklists prepared by LCAL entitled '*As-Built for On Site Assembly of EWL Slab to D-Wall / Slab Couplers*'. I have been informed by Mr. Arthur Wang that these checklists had only been provided to MTRCL in early June 2018, and that checklists in this kind of format were only formally submitted by LCAL through the ePMS on 13 June 2018 (i.e. after the BD/RDO/Pypun representatives had visited the site office).
31. After the BD/RDO/Pypun representatives first visited the site office on 4 June 2018, Mr. James Ho (SConE) approached Mr. Kobe Wong to ascertain that MTRCL had provided sufficient supervision in respect of the coupler splicing assemblies in accordance with the QSP.
32. Mr. Wong therefore prepared an Excel summary table (with reference to relevant site photos on MTRCL's project server taken during the IOWs' daily site surveillance), and on 6 June 2018, Mr Kine Tong and I presented this to the BD/RDO/Pypun representatives to explain that MTRCL had checked the requisite percentage of coupler splicing assemblies out of a total of 32 bays comprising the EWL slab. However, the BD/RDO/Pypun representatives requested more detailed records demonstrating the nature and extent of the supervision and inspection carried out by MTRCL, as the format of the summary table did not correspond to the format in Appendix B of the QSP.
33. I reported back to Mr. Ho and Mr. Fu and, shortly thereafter, Mr. Ho instructed me to prepare a set of coupler checklists for the areas covered by the site surveillance conducted by Mr. Wong and his team of IOWs, Assistant IOWs and Works Supervisors. I proceeded to prepare a set of template checklists, based on the format of

LCAL's checklists as recently provided to MTRCL, and with reference to the BA-14 as-built drawings for the diaphragm wall.

34. After I had prepared the first draft of the coupler checklists (which covered 20% of the coupler splicing assemblies in the EWL slab as described in the QSP) which I completed on or about 7 June 2018, I recall that as Mr. Ho was not available at the time, I instead consulted Mr. Fu on the nature and format of the draft coupler checklists, and I specifically asked Mr. Fu how the records should be presented to the BD/RDO/Pypun representatives, having regard to the need to be open and transparent. My concern at the time was that the coupler checklists had not been contemporaneously prepared or maintained by MTRCL. Mr. Fu therefore recommended the addition of an express remark in the draft coupler checklists to make it clear that the checklists were a '*retrospective record of coupler installation*' based on Mr. Wong's recollection of the areas/bays he had in fact covered and the relevant site photos which confirmed his recollection, and I did so accordingly.
35. Having completed the draft coupler checklists, I provided a hard copy to Mr. Wong for his review. I remember discussing the draft checklists with Mr. Ho and Mr. Wong, and the consensus from that discussion was that the coupler checklists were intended as internal records which would not form part of any formal submission to the BD or formal inspection log book under the QSP – importantly, that was why we deliberately did not include MTRCL's logo on any of the checklists. In fact, I distinctly recall telling Mr. Ho that what has not been done cannot be changed, such that the coupler checklists should not be back-dated to the time of the EWL slab works (i.e. 2015/2016).
36. Mr. Wong emphasised that he had inspected the couplers (even though there was no contemporaneous record other than his own recollection and the site photos), and Mr. Ho took the view that as long as Mr. Wong had in fact inspected the coupler splicing assemblies, the coupler checklists could act as a retrospective internal record of the fact that MTRCL had indeed provided the requisite supervision in accordance with the QSP.

37. I emphasise that so far as I was concerned, the checklists were only for our own internal record and were never intended to be either an attachment to the MTRCL report of 15 June 2018 nor part of any formal submission to the BD, not least because the record sheets and inspection log book required by the QSP had to be prepared and provided by LCAL for MTRCL to countersign where appropriate, and it was not for MTRCL to keep its own inspection log book.
38. The consensus from the discussions I had with Mr. Ho and Mr. Wong was that the coupler checklists were dated 10 February 2017 because the checklists responded to a recommendation made in MTRCL's internal *'Review of quality assurance & quality control of steel reinforcement and coupler installation for the East West Line (EWL) track slab of Contract 1112 for the Shatin to Central Link (SCL) Project'*, the report of which was issued by Mr. Carl Wu and Mr. Peter Fung on 8 February 2017. However, I did not know at the time that this report would be appended to the MTRCL report of 15 June 2018.
39. After the above discussions, Mr. Wong signed the coupler checklists and then passed them back to me, and I in turn forwarded the checklists to Mr. Ho. I recall that Mr. Wong was willing to sign the checklists because he was confident that he had in fact conducted site surveillance on site in respect of more than 50% of the coupler splicing assemblies, and it was also based on the express understanding that the coupler checklists would not be part of any formal submission to the BD or any formal inspection log book.
40. After Mr. Wong had completed and signed the coupler checklists, the coupler checklists were briefly shown to the BD/RDO/Pypun representatives at the site office on 7 and 8 June 2018. It was emphasised to the BD/RDO/Pypun representatives that those checklists were retrospective records prepared internally by MTRCL to confirm that the inspectorate staff had provided the requisite supervision under the QSP, and the BD/RDO representatives were not permitted to take any of those internal records away or to take any copies thereof.
41. After the site visits of the BD/RDO/Pypun representatives from 4 to 8 June 2018, Mr. Ho later informed me that the EWL slab arguably acts as a transfer plate, such that

MTRCL was required under the BD Approval Letters to supervise and inspect at least 50% of the coupler splicing assemblies. I was therefore told to revise the coupler checklists, again based on the areas/bays which Mr Wong confirmed had been inspected in 2015/2016, such that they covered at least 50% of the coupler splicing assemblies in the EWL slab. The revised draft checklists were provided to Mr. Wong, and Mr. Wong signed those checklists because he was confident that he and his IOW team had carried out daily site surveillance in respect of the areas/bays covered.

42. At the time the coupler checklists were prepared (which was done within a week), the checklists and the total number of couplers were all based on the information contained in the BA-14 as-built submissions for the diaphragm wall. This was all done within a very short timeframe, and at the same time, the construction management team had to identify and compile a huge volume of information and documentary records dating back to 2015/2016. Therefore, we were not aware at the time of the discrepancy between the BA-14 as-built drawings for the diaphragm walls and the number of couplers on site, particularly given the lapse of time.
43. It was only when the construction management team started preparing the as-built submissions for the EWL slab in July 2018 that the construction management team recalled the minor modifications made to the connection details at the top of the diaphragm wall, which were not reflected in the BA-14 submissions. I provide my observations on the change in construction detail below.

(ii) Change in construction detail from couplers to through-bars

44. In respect of the change in construction detail from the use of couplers to through-bars for the slab-to-wall connections, the change was implemented in the east diaphragm wall in Areas B and C. I refer to the witness statements of Mr. James Ho (paragraphs 57 to 69) and Mr. Louis Kwan (paragraphs 39 to 43) respectively (the drafts of which I have reviewed), which set out in detail the timeline and extent of the change. I can confirm that I was aware of the change at the time, as was the rest of the ConE team.
45. Having now revisited the LCAL's Technical Query TQ-URS-0033 ("TQ 33") and refreshed my memory, the need to trim off the top of the diaphragm wall in Areas B

and C was triggered by the ‘*design assumption*’ of monolithically casting the EWL and Over Track Exhaust (“OTE”) slabs, which was raised by Atkins Team B in its response to TQ 33. This was because the monolithic casting of the EWL and OTE slabs would not be possible with the separation by the diaphragm wall in between – the lowering of the diaphragm wall was necessary in order to allow such monolithic casting. In fact, in July 2015, Mr. Ho has forwarded at least three email chains to the ConEs (including myself) which were relevant to this issue:

45.1. An email dated 8 July 2015 (timed at 20:51) from LCAL’s Mr. Johnson Luk (Risk Manager) to MTRCL’s Mr. Kenneth Tan (Design Management Engineer I), attaching a ‘*Design Report for HUH Station Primary Structure*’ (Deliverable No. TWD-004B3) prepared by Atkins B. This was forwarded to me and Mr. Louis Kwan by Mr. Ho on the following day at 08:09. I note, in particular, that section 6.2 of the attached design report included the following statements:

‘The top of diaphragm wall panel will be trimmed to the lowest level of top rebar for the EWL slab (min 420mm below the top level of EWL slab).

The top rebar of EWL slab at the diaphragm wall panel will then fix to the top rebar of OTE slab to achieve full tension laps.

The EWL slab and OTE slab will be casted concurrently with temporary openings around the existing columns and pile caps.’

45.2. An email dated 24 July 2015 (timed at 16:20) from Mr. Wan Cheung Lee of Atkins B (acting as LCAL’s design consultant), who ‘*reminded that in order to comply with the design assumption, the OTE wall must be concrete/pour together at the same time (monolithically) with the 3m EWL slab*’. This was forwarded to me and Mr. Kwan by Mr. Ho on the following day at 09:43.

45.3. An email dated 25 July 2015 (timed at 14:05) from Mr. Rob McCrae of Atkins A to MTRCL’s Mr. Brendan Reilly (Project Manager), which stated that the OTE slab could only be cast after the EWL slab if that was done before future activities would further load the structure. Mr. Kwan, Mr. Dick Kung (SIOW) and I were among those who were forwarded this email chain by Mr Ho on 27 July 2015 at 08:46.

46. To my mind, and consistent with the belief of the construction management team to this date, the change of the couplers to through-bars was in fact a minor change and a better construction detail – it was simply common sense that with the top of the diaphragm wall (and the top layer of cast-in couplers) trimmed off, there was no reason not to use through-bars extending from the EWL slab across the diaphragm wall, and this was why the change in construction detail was later rolled out to all other panels in the east diaphragm wall in Areas B and C (with a limited number of exceptions, as explained in the witness statement of Mr. Louis Kwan).

Item 11(p): Explain whether it is common in the construction of diaphragm walls and platform slabs for steel bars to be shortened and cut and confirm whether such shortening and cutting of steel bars within the diaphragm walls and platform slabs is acceptable and in compliance with Requirements, Standards and Practice.

47. In relation to the photos published by Apple Daily on 30 May 2018, the common practice is that the rebars would typically be cut to the right size prior to the fixing of the rebars, using bending machines which were in the bending yard. There should normally be no cutting required in the work areas, and certainly no cutting of the threaded ends under any circumstances. If a rebar is of the wrong length, the workers would usually request a new rebar to be cut using the bending machine.

Item 12:

- (a) Describe at which stage the steel fixing works would be inspected by Your Company and Leighton.**
(b) State how frequently Your Company and Leighton would carry out the inspections.
(d) Describe and explain how the inspections would be carried out, whether they were visual inspections only or equipment was used or both.

48. I understand that this issue has been addressed in some detail in the witness statement of Mr. Louis Kwan in paragraphs 46 to 61. I have read his statement in draft and I agree with the relevant sections of his statement on the frequency and manner of MTRCL's inspections of the rebar fixing works.
49. Although the IOWs were responsible for carrying out the RISC inspections generally (including for the diaphragm wall works) and for inspecting some minor steelworks e.g. manholes or wire meshes, the rebar fixing works in the EWL slab (which

constituted hold-points) were assigned to the ConEs to inspect, as per the Inspection and Test Plan for the construction of the EWL slab in Area C (“ITP”) (which applied to Areas B and C1).

50. Based on the general practice on site up to that point, I was aware that the IOWs would carry out daily site surveillance on site in general just as they had done during the construction of the diaphragm walls, which covered the quality supervision of the coupler splicing assemblies – this consisted of the top and bottom layers of slab-to-wall connections at the shear keys, and the slab-to-slab connections at the construction joints between bays.
51. To my mind, this division of labour between ConEs and IOWs in respect of the EWL slab works was logical because:
 - 51.1. The IOWs were on site every day, and they had the opportunity to look at the splicing assemblies whilst they were being done.
 - 51.2. The ConEs came in at a later stage for the quality control of the finished products as a hold-point, that is, the inspection of the bottom layers of the rebars once those had been fixed, followed by another inspection of the top layers when those had also been fixed. The manner and method of inspection are addressed in the witness statement of Mr. Kwan in paragraphs 55 to 61, and I agree with what he says in his statement.
52. I do recall speaking to the IOWs on site to discuss the proper installation method of the couplers and to understand how the splicing assemblies should be inspected. These conversations were only informal chats on site, but I distinctly understood from the IOWs that there was no specific requirement as to torque for the BOSA couplers used in Contract 1112.
53. Based on this understanding, and although I was not specifically assigned to inspect or supervise the coupler splicing assemblies, I do recall having looked at the splicing assemblies of the couplers as far as that was physically and visually possible during

my routine site surveillance activities during the construction of EWL platform slab, and I have not seen any couplers which were not fully or correctly spliced to the rebars.

Item 13:

- (b) Confirm whether Your Company was aware that steel bars were being shortened or cut by hydraulic cutters on site, and if so, what were the reasons for using a hydraulic cutter to carry out such work.**
- (c) Confirm whether workers engaged by Leighton and/or its subcontractors had used hydraulic cutters to shorten and cut the steel bars embedded or to be embedded within the diaphragm walls and platform slabs and if so, please identify the workers and/or entities who carried out such shortening or cutting work by hydraulic cutters, and the persons and/or entities who gave instructions (i) for such work to be carried out and (ii) for hydraulic cutters to be acquired.**

54. I do not recall seeing any hydraulic cutters on site during my routine site surveillance activities, and nor am I aware of any other work activities in Contract 1112 on the SCL Project which required a hydraulic cutter. As far as I am aware, there were no rebars (whether threaded ends or otherwise) which were shortened or cut by LCAL and/or its sub-contractors on site using a hydraulic cutter.

55. Finally, I would like to mention the following:

55.1. The events in question and which form the subject matter of the Commission of Inquiry took place several years ago and my recollection of every detail is not therefore perfect.

55.2. Accordingly, in preparing this witness statement I have reminded myself of the events in question by reference to various hard copy and electronic documents and materials, including contemporaneous email correspondence, meeting minutes and contractual documents and other records. I understand these materials were retrieved by MTRCL's Legal Department, with the assistance of the MTRCL's external lawyers, Mayer Brown.

Dated 13th September 2018



MA Ming Ching Derek