

## APPENDIX XI

### 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

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#### App. XI - Agreed Expert Memorandum signed on 18 December 2018

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#### Transcript

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

Meeting of Experts                      Tuesday 18 December 2018

At Tsuen Wan Court                      11:00

Present:

For C.O.I.	Don McQuillan instructed by Lo & Lo
MTRCL	Mike Glover Colin Wade                      instructed by Mayer Brown
LCAL	Nick Southward instructed by O'Melveny
Chinat	Albert Yeung instructed by Lim & Lok
Government	Francis Au instructed by D.O.J.

Purpose: To discuss "without prejudice" relevant issues and, if possible, to list for the benefit of the Commission, items of agreement and disagreement.

1. General Code requirements

- All agreed there was no requirement for ductility couplers.
- All agreed that an amount equivalent to 50% of the top tensile steel was required in the bottom of the EWL slab to be carried through in the D-wall. i.e. less than 50% of the bottom steel at the interface was required for Code compliance.

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2. All agreed that irrespective of the code requirement the EWL slab does not, in theory, rely on steel at the interface, at the bottom, for flexure and shear capacity.
3. The cutting-down of a D-wall is a normal part of the construction process with the methodology governed by the specification and is analogous to the construction of a shear key.

All agreed that the change from couplers to through bars in the top of the east D-wall was a better detail and provided more steel across the interface (subject to a review of the internal stresses at the top-of-wall construction joint relating to the “first change” and its rebar detailing). Notwithstanding, all agreed the outcome would not show the construction joint to be problematic.

4. All agreed except Nick Southward (not part of his brief) that miscellaneous workmanship issues eg spalling, voiding, gaps etc. were all repairable.

The main discussion related to mis-aligned shear links. All agreed this was of no structural significance in the context of the slab rebar.

5. All agreed that a load test was unnecessary because it would yield no meaningful result and long-term monitoring would be a better approach to allay public safety concerns.

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6. In terms of the current opening-up regime all agreed, based on the “redundancy” of the couplers in the bottom of the EWL slab, that further opening-up was unnecessary. Focus should be directed to the top of the east D-wall to verify the as-built drawings and the details which are of structural significance.

Moreover, it was noted during the site inspection that the EWL soffit slab openings were creating safety hazards for the staff on-site.

Also the decision to expose the third and fourth layers of rebar is impractical and will cause major disruption to the slabs.

All agreed that the GPR NDT was inaccurate, time consuming and inappropriate when opening-up has to be carried out anyway.

All agreed that invasive investigation of the D-walls and NSL slab should also be reviewed.

Mike Glover [signed]

Colin Wade [signed]

Nick Southward [signed]

Albert T Yeung [signed]

Francis T.K. Au [signed]

Don McQuillan [signed]

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Meeting of Experts

Tuesday 18 December 2018

Kt Tsuan Wan Court

11:00

Present:

DOT C.O.I  
MITREL

LEAL

China  
Government

Don McQuinnan instructed by Lo & Lo  
Mike Glover } instructed by Mayer Brown  
Colin Wade }  
Nick Southward instructed by O'Melveny  
Albert Young instructed by Lin & Lok  
Francis Au instructed by D.O.J.

Purpose: to discuss "without prejudice" relevant issues and, if possible, to list for the benefit of the Commission, items of agreement and disagreement.

1. General Code Requirements.

- ~~All agreed there was no requirement for ductility couplers.~~
- ~~All agreed that <sup>an amount of</sup> 50% of the top sill steel ~~required to be carried across the width~~ <sup>equivalent to</sup> into the support.~~
- All agreed that an amount ~~of~~ 50% of the top tensile steel was required in the bottom of

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( The EHL slabs to be carried through in the D-wall. 2  
i.e. less than 50% of the bottom steel at the interface was required for Code compliance.

All agreed that

2. Irrespective of the code requirement the EHL slabs does not, in theory, rely on ~~the~~ steel at the interface, at the bottom, for flexure and shear capacity. \*

3. The cutting-down of a D-wall is a normal part of the construction process with the methodology governed by the specification and is analogous to the construction of a shear key.

All agreed that the change from couplers to through bars in the top of the east D-wall was a better detail and provided more steel across the interface (subject to a review of the internal stresses at the top-of-wall construction joint relating to the "first change" and its rebar detailing). Notwithstanding, all agreed the outcome would not show the construction joint to be problematic.

except Nick Southward (not part of his brief)

4. All agreed their miscellaneous workmanship issues eg, spalling, voiding, gaps etc were all ~~not~~ ~~repairable~~ repairable.

The main discussion related to mis-aligned shear links. All agreed this was of no structural significance in the context of the slabs rebar.

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because it would yield no meaningful results

5. All agreed that a load Test was unnecessary<sup>h</sup> and long-term monitoring would be a better approach to allay public safety concerns.

6. In terms of the current opening-up regime all agreed, based on the "redundancy" of the coypers in the bottom of the EWL slabs, that further opening-up was unnecessary. Power should be directed to the top of the cast in wall to verify the as-built drawings and the details which are of structural significance.

Moreover, it was noted during the site inspection that the EWL soffit slabs openings were creating safety hazards for the staff on-site.

Also the decision to expose the third and fourth layers of ~~cast~~ rebar is impractical and will cause major disruption to the slabs.

All agreed that the GAR NDT was inaccurate, time consuming and inappropriate when opening-up has to be carried out anyway.

All agreed ~~that~~ that invasive investigations of the D-wall and NGL slabs should also be reviewed.

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at the Hung Hom Station Extension under the Shatin to Central Link Project

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Mike Glover

M Glover

COLIN WADE

C. Wade

NICK SOUTHWARD

Nick Southward

Albert T. Yeung

Albert T. Yeung

FRANCIS T.K. AU

Francis T.K. Au

SON McQUILLAN

Son McQuillan