Location 13

Hard standing area – overview of hard standing

Notes:

- Taken from the upper deck of the TOBS roof terrace.
- No new cracks or other evidence of movement or settlement within concrete hard standing observed.

Location 14

Hard standing area – overview of hard standing

Notes:

- Taken from the upper deck of the TOBS roof terrace.
- No new cracks or other evidence of movement or settlement within concrete hard standing observed.

Location 15

Hard standing area – view away from river wall

Notes:

- No new cracks or other evidence of movement or settlement within concrete hard standing observed.
- Significant vegetation growth since previous inspection on 22nd March 2018.

BUROHAPPOLD ENGINEERING

Technical Note

Project	Thames Side West
Subject	Dohm Wharf River Wall Quarterly Inspection – September 2018
Project no	035668
Date	28 September 2018

Revision	Description	Issued by	Date	Approved (signature)
00	For issue	JF	28.09.18	

1 Introduction

Dohm Wharf Wall is a section of river wall on the north bank of the River Thames. The wall is 32m long, and comprises steel sheet piles, waling beams and ground anchors. The retained area behind the wall is occupied by hard standing and a warehouse.

Following the completion of a series of repairs to the steel sheet pile sections in September 2017, it was agreed with the Environment Agency (EA) that quarterly inspections of the river shall be carried out. The principle aim of these inspections is to ensure that the river wall remains in suitable condition to act as a flood defence, until the wall is fully replaced as part of the Thames Side West Operational Development works. The purpose of these visual inspections is twofold:

- To monitor the overall structural stability of river wall; and
- To monitor the repairs previously carried out to the steel sheet pile wall to confirm that the repairs remain in place and that no further degradation of the condition of the steel has taken place.

The fourth quarterly inspection was carried out on the 26th September 2018. Present at the inspection were Jack Foster and Clare Jones, of BuroHappold Engineering. The inspection was carried out from the land side of the river wall only.

This Technical Note provides a summary of the observations during the 26th September 2018 inspection and should be read in conjunction with the following reports from previous inspections and site visits carried out by BuroHappold:

- Dohm Wharf River Wall Inspection, 23rd February 2017
- Dohm Wharf Repairs Summary Report, 27th September 2017
- Dohm Wharf River Wall Quarterly Inspection, 19th December 2017
- Dohm Wharf River Wall Quarterly Inspection, 22nd March 2018
- Dohm Wharf River Wall Quarterly Inspection, 25th June 2018

2 Overall Structural Stability

A visual inspection of the river wall was carried out from the land side, with access gained via the following two areas shown in Figure 2.1 which are separated by timber hoarding and a fire escape from the adjacent building.

- Concrete hardstanding (purple)
- The Old Basket Supply (TOBS) terrace area, both at ground and first floor level (orange)

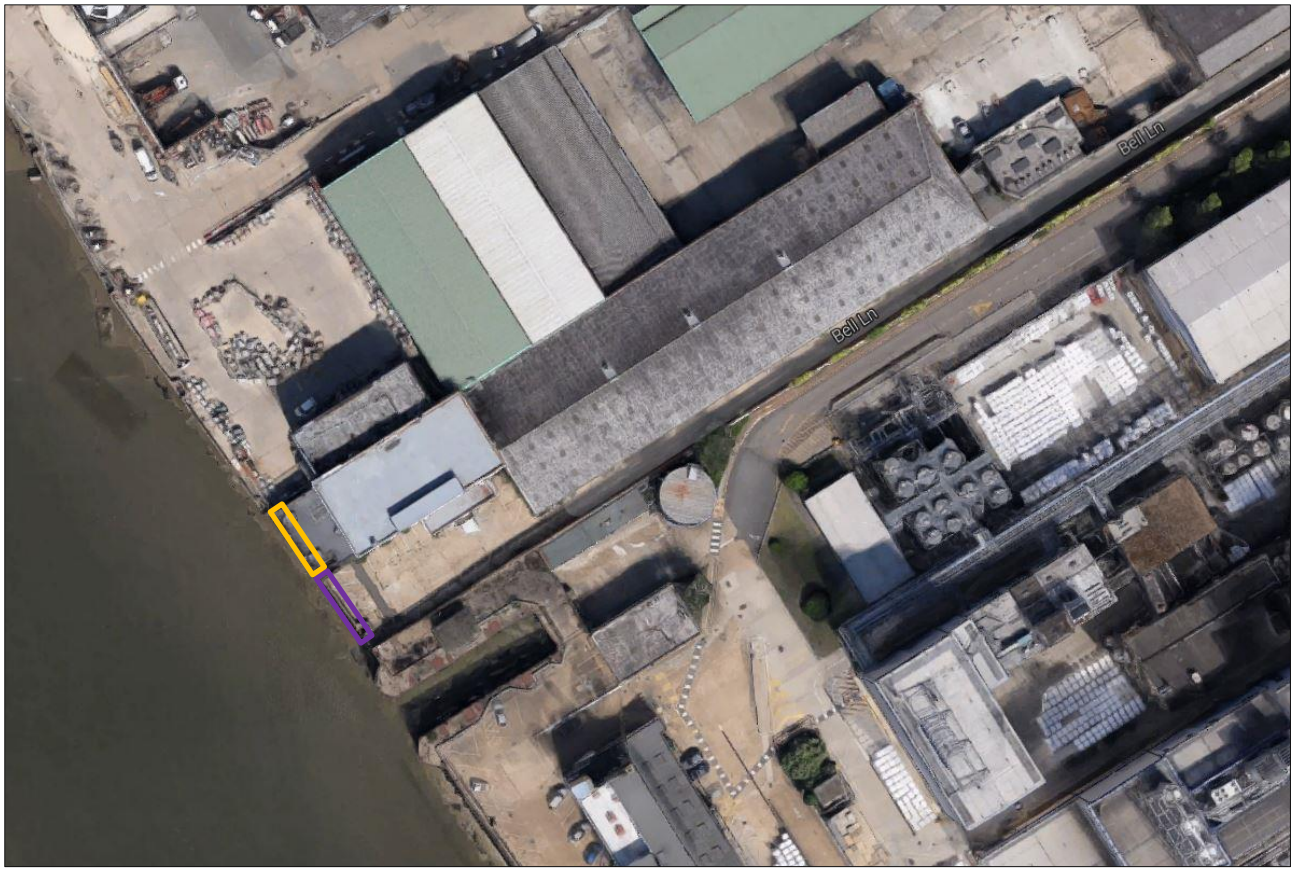


Figure 2.1: Aerial view of Dohm Wharf showing inspection areas

The purpose of the visual inspection was to monitor the overall structural stability of the river wall by identifying any evidence of movement such as new cracks in the concrete parapet wall, capping beam, hardstanding or adjacent perpendicular brick walls.

Record photos were taken from a series of standard locations to allow repeat photos to be taken to enable direct visual comparison to determine if any degradation occurs between subsequent quarterly inspections. These record photos and locations are given in the Appendix, along with observation notes.

There has been significant vegetation growth since the previous inspection, which has reduced the visibility of parts of the concrete hardstanding.

During the inspection, 2 no. boreholes within the hardstanding behind the river wall were observed. One is approx. 2m from the river wall, the other is further back and contains monitoring equipment. In addition, there are 2 no. sensors fixed to the top of the concrete parapet wall. There were no contractors on site during the Dohm Wharf inspection. It is assumed that these boreholes are part of site investigation works on behalf of Transport for London (TfL) for the Silvertown Tunnel.

No evidence of movement or settlement of the existing river wall was observed.

3 Steel Sheet Pile Repairs

3.1 Overview

During the 23rd February 2017 inspection, corrosion to the steel sheet pile sections of the river wall was observed. This was most significant in the splash zone above high water where voids were present behind perforations in the steel.

Following the inspection, it was recommended that short-term remedial works were carried out to preserve the structural integrity of the wall and the associated flood defence. These remedial works to the corroded areas of the steel sheet piling were carried out in August and September 2017, in the form of plates welded over the perforations.

As part of this quarterly monitoring, a visual inspection of the remedial works was carried out from the land side of the river wall to confirm that the repairs remain in place and that no further degradation of the steel has taken place.

3.2 Upper Level

The repairs to the upper part of the sheet pile wall above the upper waling beam were visible from the land side.

All plate repairs appear to remain securely welded to the existing sheet pile sections and there is no evidence of further degradation of the condition of the remaining steel. Figure 3.1 shows a typical photograph of the upper level of the river wall, showing the steel plate repairs securely welded to the sheet piling.

Figure 3.1: Typical photograph of upper level of river wall, showing steel plate repairs to sheet piling, taken from the land side of the river wall

3.3 Low Level

A detailed inspection of the repairs to the low level of the river wall was not carried out as access to the foreshore was not gained during the inspection. However, from observations from the land side of the top of the river wall, no patch repairs appeared to be missing or displaced.

4 Summary and Conclusion

The visual inspection did not identify any evidence of further movement or settlement within the concrete hardstanding, concrete capping beam and parapet wall or adjoining brick walls since the previous inspection.

Of the steel sheet pile repairs that were visible, the welds appear to remain sound and the plates securely fixed. The repairs carried out at the foot of the river wall were not visible in detail due to access restrictions, however observations from the land side did not reveal any faults to the low level repairs.

During the inspection, 2 no. boreholes within the hardstanding behind the river wall were observed. It is assumed that these are part of site investigation works on behalf of Transport for London (TfL) for the Silvertown Tunnel.

Following a meeting between BuroHappold and the EA on 11th September 2018, during which BuroHappold confirmed that there had been no evidence of movement since the remedial works were complete, the EA confirmed that the inspections of the river wall at Dohm Wharf are required to continue to be carried out at three month intervals. The next quarterly inspection is therefore due to be carried out in December 2018.

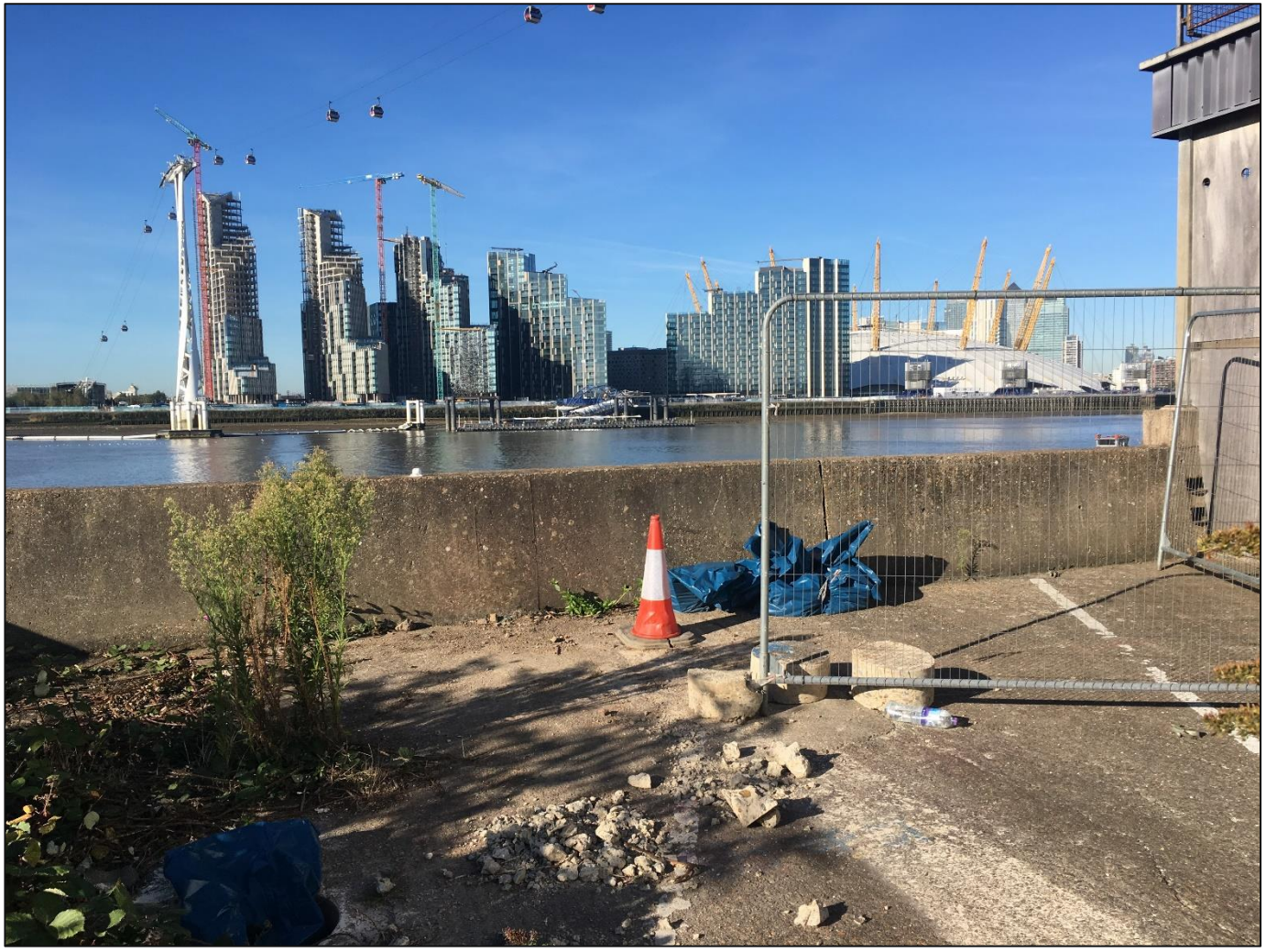
Appendix

Location 1

Hard standing area – overview of parapet wall

Notes:

- Hard standing generally in good condition.
- Existing cracks in hard standing previously observed during 23rd February 2017, 19th December 2017, 22nd March 2018 and 25th June 2018 inspections.
- No new cracks observed in concrete parapet wall or concrete hard standing.
- No obvious indications of movement or settlement of parapet wall or hard standing.
- Significant growth of vegetation within concrete hard standing since previous inspection on 25th June 2018.



Location 2

Hard standing area – south corner

Notes:

- Brick wall perpendicular to river wall, at south boundary of Dohm Wharf river wall.
- Existing crack in brick wall unchanged since last inspection. See location 3 for detail.
- No new cracks observed in concrete parapet wall, adjoining red brick wall or concrete hardstanding.
- Significant growth of vegetation within concrete hard standing since previous inspection on 25th June 2018.

Location 3

Hard standing area – south corner brick wall crack detail

Notes:

- Brick wall perpendicular to river wall, at south boundary of Dohm Wharf river wall.
- Existing crack in brick wall at approximate level of crest of concrete parapet wall first observed during first inspection on 19th December 2017.
- Extent of crack remains unchanged since 19th December 2017, 22nd March 2018 and 25th June 2018 inspection.
- Crack does not appear to have widened since 19th December 2017, 22nd March 2018 and 25th June 2018 inspection.
- No new cracks observed within brick wall or concrete parapet wall.
- No obvious indications of movement or settlement.

Location 4

Hard standing area – north corner

Notes:

- No cracks observed in concrete parapet wall or concrete hard standing during first inspection on 19th December 2017.
- No new cracks observed in concrete parapet wall or concrete hard standing.
- No evidence of movement at interface between timber hoarding, concrete parapet wall and concrete hard standing.
- No obvious indications of movement or settlement of parapet wall or hard standing.

Location 5

Hard standing area – crack in parapet wall

Notes:

- Existing hairline crack in concrete parapet wall first observed during first inspection on 19th December 2017.
- Crack originates through penetration in wall, assumed to be a construction defect rather than caused by movement of the river wall.
- No new cracks observed in concrete parapet wall or concrete hard standing.
- No evidence of movement since previous inspection on 25th June 2018.

Location 6

TOBS terrace area – overview of parapet wall

Notes:

- No new cracks observed in concrete parapet wall.
- Inspection of ground behind parapet wall prevented by presence of timber deck.
- No obvious indications of movement or settlement.
- Sensor fixed to concrete parapet wall, also presumed to have been installed by TfL as part of Silvertown Tunnel works.

Location 7

TOBS terrace area – north corner

Notes:

- Existing crack in wall of concrete planter first observed during first inspection on 19th December 2017. See location 8 for detail.
- No new cracks observed in concrete parapet wall or adjoining brick wall.
- No obvious indications of movement or settlement.

Location 8

TOBS terrace area – north corner planter crack detail

Notes:

- Existing crack in wall of concrete planter first observed during first inspection on 19th December 2017.
- Extent of crack remains unchanged since last inspection.
- No evidence to indicate that crack has widened since last inspection.
- No new cracks observed in wall of concrete planter.

Location 9

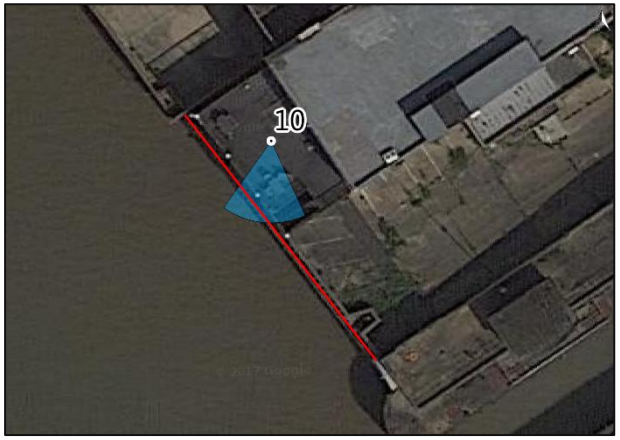
TOBS terrace area – north corned brick wall detail

Notes:

- Adjoining brick wall at north boundary of Dohm Wharf river wall.
- Existing minor crack along horizontal mortar joints in brick wall first observed during first inspection on 19th December 2017.
- No evidence to indicate that crack has widened or extended since last inspection.
- No new cracks observed in brick wall.
- Note that condition of mortar is poor in places.

Location 10

TOBS terrace area – south corner



Notes:

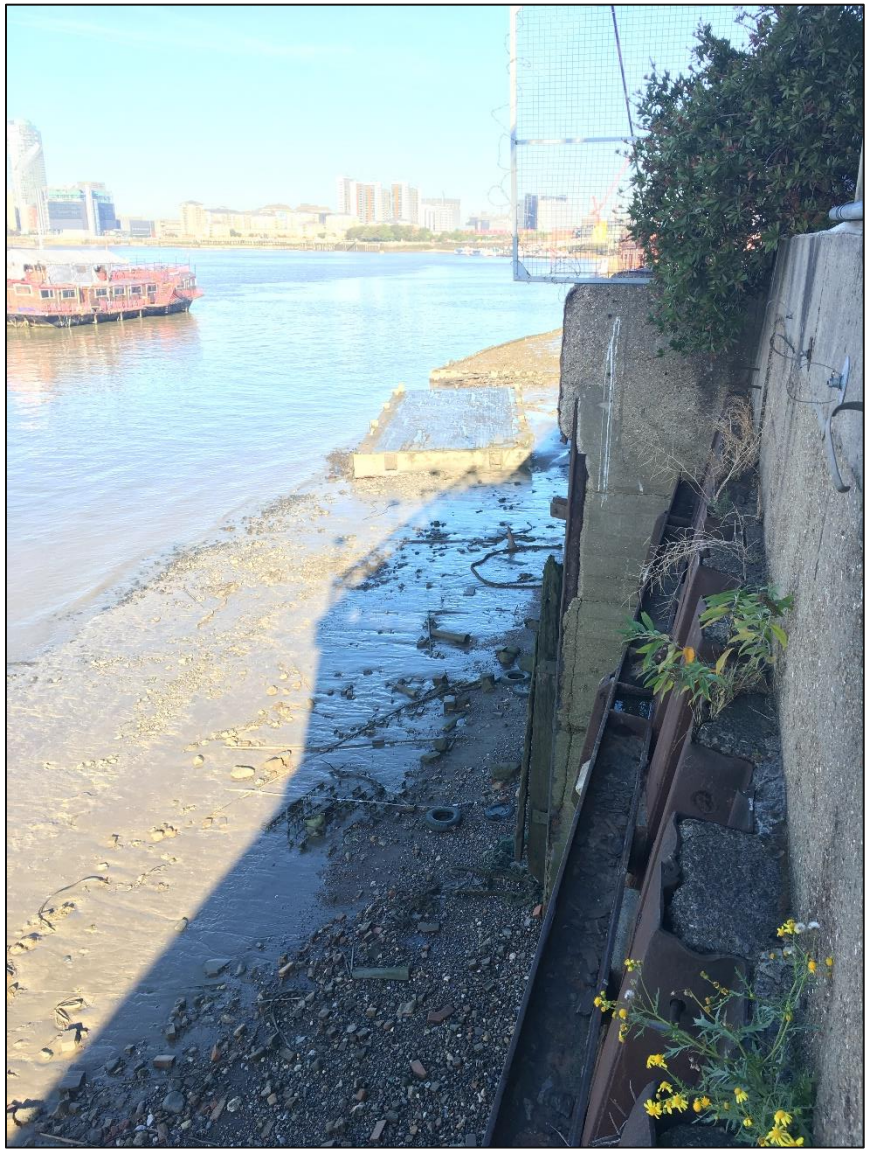
- No new cracks observed in concrete parapet wall.
- No obvious indications of movement or settlement.

Location 11

TOBS terrace area – end face of adjacent wall to north

Notes:

- Adjoining river wall to north steps out from alignment of Dohm Wharf river wall.
- Reinforcement within concrete face of adjoining river wall exposed, first observed during first inspection on 19th December 2017. No obvious deterioration since last visit on 25th June 2018.
- No evidence of movement at interface between two river walls.



Location 12

Hard standing area – overview of hard standing

Notes:

- Taken from the upper deck of the TOBS roof terrace.
- Existing cracks in concrete hard standing first observed during first inspection on 19th December 2017.
- No new cracks or other evidence of movement or settlement within concrete hard standing observed.
- Borehole within concrete hardstanding, containing monitoring equipment. Presumed to be part of site investigation works by TfL for the Silvertown Tunnel.

Location 13

Hard standing area – overview of hard standing

Notes:

- Taken from the upper deck of the TOBS roof terrace.
- Existing cracks in concrete hard standing first observed during first inspection on 19th December 2017.
- No new cracks or other evidence of movement or settlement within concrete hard standing observed.
- Significant vegetation growth since previous inspection.
- Borehole within concrete hardstanding, containing monitoring equipment. Presumed to be part of site investigation works by TfL for the Silvertown Tunnel.

Location 14

Hard standing area – overview of hard standing

Notes:

- Taken from the upper deck of the TOBS roof terrace.
- Existing cracks in concrete hard standing first observed during first inspection on 19th December 2017.
- No new cracks or other evidence of movement or settlement within concrete hard standing observed.
- Significant vegetation growth since previous inspection.
- Borehole within concrete hardstanding approx. 2m from face of river wall. No monitoring equipment present within borehole. Presumed to be part of site investigation works by TfL for the Silvertown Tunnel.
- Sensor fixed to concrete parapet wall, also presumed to have been installed by TfL as part of Silvertown Tunnel works.