GD Partnership Ltd

BASEMENT CONSTRUCTION PLAN

FOR

TRANSFORMATION OF THE UGLY BROWN BUILDING

2-6 ST PANCRAS WAY, LONDON NW1 0TB

- PLOT A -

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Issuing Record

Issue	Date	Description	status
Version 1	04.11.20	First issue	Preliminary
Version 2	12.01.21	Clause 3: BIA revised to include precondition surveys to existing buildings. Appendix F: RSK reports added - Geoenvironmental and Geotechnical Assessment 371654-01 (01), Retaining Wall Assessment - UBB report 371654-L01 (00) 19th. May 2020 and Thames Water Asset Assessment Report 371654 03 (03). Appendix H revised and added letter of confirmation and CV. Appendix I: Thames Water Survey Report added Appendix J: Precondition survey reports carried out by BEHAN Partnership Ltd. added.	Preliminary
Version 3	23.02.21	Status revised for Review as discussed with Campbell Reith. BCP Letter revised to include site monitoring/inspection during the basement construction. Design Philosophy and main basement structural calculations included. Approved HAIP document included in Appendix K.	For Review

GD Partnership Ltd. (GDP) have prepared this report in accordance with the instruction of our client, Reef Estates.
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CONTENTS:

1 Planning S106 Requirements.

This report covers S106 planning requirements on schedule 4, paragraph 4 in relation to the basement construction plan for the Plot A of the Ugly Brown Building at 2-6 St Pancras Way, the London Borough of Camden.

The planning S106 requirements as follows:

Prior to the construction implementation date to provide the Council for approval a draft basement construction plan.

The construction of the development should not commence until such time that the Council has approved the final basement construction plan.

2 Basement Construction Plan

The information below addresses each point within the S106 agreement schedule 4 paragraphs 4.

2.1 To incorporate the recommendations and conclusions within the Basement Impact Assessment (BIA) report carried by GD Partnership Ltd dated September 2017 as shown in Appendix B.

Refer to section 3 for information on how these recommendations and conclusions are included.

2.2 Method statement detailing the proposed method ensuring the safety and stability of the neighbouring properties throughout the construction phase including temporary works sequence drawings and assumptions.

The proposed basement construction drawings are GDP-ZA1-B1-DR-S-1590 rev. P1, 1595 rev. P1, 1600 rev. P13, 1990 rev. P17, 2000 rev. P13, 2402 rev. P15, 2406 rev. P9, 2407 rev. P6, 2410 rev. 11 and 2508 rev. P3 as shown on Appendix A.

Proposed preliminary sequence of construction to form the basement including piling mat and any temporary propping where required are shown on drawings 16017-GDP-ZA1-ZZ-SK-S-3010 rev. P1 and 16017-GDP-ZA1-ZZ-SK-S-3011 rev. P1 in Appendix C. Final construction sequence will be provided by the appointed main contractor, but proposed summary is as follow:

a) Provide high-level and low-level piling mats at 23.500 AOD and 21.550 AOD respectively.
b) Install high level 600mm diameter bearing piles and 450mm/900mm diameter contiguous piled walls adjacent to the canal, adjacent to the TW sewer and Canal Side Studio building.
c) Install low level 600mm diameter bearing piles within the basement footprint including piles for the crane base (location to be confirmed by the main contractor) and 450mm, 600mm & 900mm diameter contiguous piled wall adjacent to TW sewer, along the St. Pancras Way and the Canal Side Studio building.

d) Construct the high-level RC capping beam along the canal line.
e) Construct the remainder of the RC capping beams around the perimeter.
f) Install flow meter within the Thames Water sewer prior to the excavation/construction of the basement slab.
g) Construct the 2nos. of 450mm thick RC retaining walls along grid lines A/7-8 and D/7-8 over the TW sewer together with their associated pile caps. This may need to be done in sections. Provide diagonal temporary props to top of walls prior to constructing the basement slab over the Thames Water sewer.
h) For the construction of the basement slab over the Thames Water sewer, refer to drawing S-2508 showing the preliminary detail sequences, but final construction sequence is to be agreed with Thames Water.
i) Provide temporary props along the North and Eastern elevations adjacent to the Canal Side Studio building until the basement and ground floor slabs have been cast.
j) Once the basement slab over the Thames Water sewer has been constructed, carry out bulk dig to basement formation level from the Thames Water sewer side.
k) Provide temporary sheet piled wall with temporary props to construct the pumping chamber on the St Pancras Way elevation.
l) Construct the pumping chamber ground beam and base slab including the walls.
m) Construct the remaining pile cap foundations including lift core bases.
n) Construct the remaining basement slab, columns and the perimeter liner wall.
o) Construct the ground floor slab, columns and lift shaft walls.

2.3 Proposed detail monitoring throughout the construction stage.

Following demolition works and prior to any main construction works, monitoring systems will be installed and provide live reporting during the construction works together with the trigger limits. Regular reporting of the movements over time and relative to one another along each elevation will be carried by the sub-contractor.

Should movement of the ground and walls be above the specified trigger limits, an immediate investigation to be carried out. Temporary supports will be installed where necessary and the excavation backfilled in the affected areas until a permanent solution has been developed and implemented.

- Flow meter to be installed in the Thames Water sewer in order to monitor the flow and depth of water flowing through the sewer during the construction of the basement slab. Refer to Appendix D.
- Installation of ground movement monitoring system as Geo Instruments proposal over to the Thames Water sewer. Refer to Appendix D.
- Inclinometers with 3D survey points will be positioned along the wall at approximately 20m centres to monitor the movements. Refer to Appendix D.

2.4 Certified Engineers.

The proposed basement is designed and detailed by experienced and qualified chartered geotechnical and structural engineers. CVs are included within this document. Refer to Appendix H.

For all temporary works during the construction stage are to be designed and detailed by the main contractor and their CVs will submitted when they have been appointed.

2.5 Risk Assessment.

Final Risk Assessment will be submitted when the main contractor has been appointed, but preliminary risk assessment has been included in Appendix E.

3 Basement Impact Assessment

Basement Impact Assessment report was carried by GD Partnership Ltd dated September 2017 as shown in Appendix B.

Within the BIA report clause 2.3.3, Precondition surveys for the all the surrounding structures are to be carried out prior to any works starts on site. These precondition surveys had been carried out by BEHAN Partnership Ltd for the affected buildings such as the Canal Side Studio and Plot B and these reports are included in Appendix J.

Within the report of clause 7 on conclusion of impact assessment for land stability there are recommendations of safe practices in order to reduce the potential for any movement over and above that expected. These will be implemented within the design and construction methodology as follow.

3.1 Impact assessment for land stability

Table below shows combines the movements predicted for contiguous piled wall installation and excavation in front of the wall with predicted vertical movements from elastic heave. These calculated cumulative ground movements to the adjacent structures is extracted from RSK report on Ground Movement and Building Damage Assessment ref. 371654-02 (01) dated August 2020 table 9 as shown on Appendix F.

Adjacent Structure	Lateral movements (mm)	Vertical movements (mm)
Retaining wall adjacent to canal towpath	-5.48	2.84
Canal Side Studios	2.20	5.76
St Pancras Way / Travis Perkins	0.01	0.01

3.2 Control Ground Movements.

3.2.1 Good workmanship will be required to ensure that pile installation induced settlements are kept to a minimum. It will be essential to ensure that the made ground is not allowed to collapse prior to casting of the contiguous piled wall.

Refer to Keller Draft Work Package Plan on Appendix G.

Final piling method statement will be provided once the piling contractor has been appointed.

3.2.2 The contiguous piled wall should be installed to a suitable depth and have adequate embedment in stiff strata for satisfactory vertical and lateral stability.

Refer to RSK report on Ground Movement and Building Damage Assessment ref. 371654-02 (01) dated August 2020 table 9 as shown on Appendix F assuming pile depths between 18m to 20m deep provide lateral movements of less than 10mm both horizontally and vertically.

Final pile designs will be provided by the piling specialist sub-contractor and will be submitted when available.

3.2.3 It should be ensured that basement slab is cast as early as possible and tight to the piled retaining wall. Sufficient time should be given for the slab to cure and gain strength prior to continuation of excavation below.

The proposed construction programme for this works will be submitted once the main contractor has been appointed.

3.2.4 Where temporary props are required, they should be designed to provide adequate restraint to limit lateral ground movements. Walings should be tied in so they do not rely on friction or adhesion between the prop end and waling to be held in place.

RSK report on Ground Movement and Building Damage Assessment ref. 371654-02 (01) dated August 2020 analysis shown on Appendix F have been based on cantilevered contiguous piles. However, temporary props will be provided to all corners of the walls to minimise any movement during the construction stage until the basement and ground floor slabs have been constructed. Refer to Appendix C.

3.2.5 The first stage of excavation should be minimised and the first (stiff) support should be installed as early as possible in the construction sequence.

As discussed above that all perimeter contiguous piled walls are to be designed as cantilevered walls with temporary props to all corners of the walls as proposed on the construction sequence shown on Appendix C.

3.2.6 The construction of the wall and its support systems should not be delayed.

Construction programme to be provided when the main contractor has been appointed.

3.2.7 Over-excavation should be avoided.

Main contractor construction method statements to be provided once they have been appointed.

3.2.8 Monitoring both above and below ground should be carried out to ensure that the expected displacements are not exceeded. Limits of lateral and vertical displacement should be set beyond which the method of construction should be re assessed.

Refer to monitoring strategy as shown on Appendix D. Inclinometers are positioned along the piled wall at approximately 20m centres to monitor movements.

4 Appendices:

Appendix A – Proposed Basement Drawings.

Appendix B – Basement Impact Assessment.

Appendix C – Preliminary Construction Sequence.

Appendix D – Monitoring Strategy.

Appendix E – Preliminary Risk Assessment.

Appendix F – RSK Reports

- RSK Report on Ground Movement & Building Damage ref. 371654 – 02 (01) August 2020.
- RSK Retaining Wall Assessment – Ugly Brown Building ref. 371654-L01(00) 19th. May 2020.
- RSK Thames Water Asset Assessment Report ref. 371654-03 (03)
- RSK Geoenvironmental and Geotechnical Assessment 371654-01 (01)

Appendix G – Keller Draft Work Package Plan

Appendix H – Author's qualifications

Appendix I – Thames Water Survey Report

Appendix J – Precondition survey reports carried out by BEHAN Partnership Ltd.

Appendix K - Approved HAIP document