

Pool House, Walled Garden, Tottenham House, Wiltshire SN8 3BE

Structural Engineer’s Ground Movement Monitoring proposal

September 2025



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PLANNING	P2	Planning Conditions Update	25:09:30	TH
PRELIMINARY	P1	Planning Information	25:07:10	TH

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1 PREAMBLE

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2 INTRODUCTION

MBP has been appointed by the owners of Tottenham House (TH) to undertake the design and site monitoring of the new Pool House building within the Walled Gardens at Tottenham House. The works involve the following key activities in the ground:

- a. Installation of a piling mat
- b. Installation of a piled wall around the perimeter of the new Pool House
- c. Sequential excavation of the soil within the piled wall, providing temporary propping at three levels.
- d. Installation of a new permanent reinforced concrete structure with liner walls and floors to provide the permanent propping to the perimeter walls.
- e. Hard landscaping activities, forming and improving pathways within 4m of the walls.

3 SITE LOCATION

Tottenham House is in a rural location in Wiltshire to the NE of Durley.

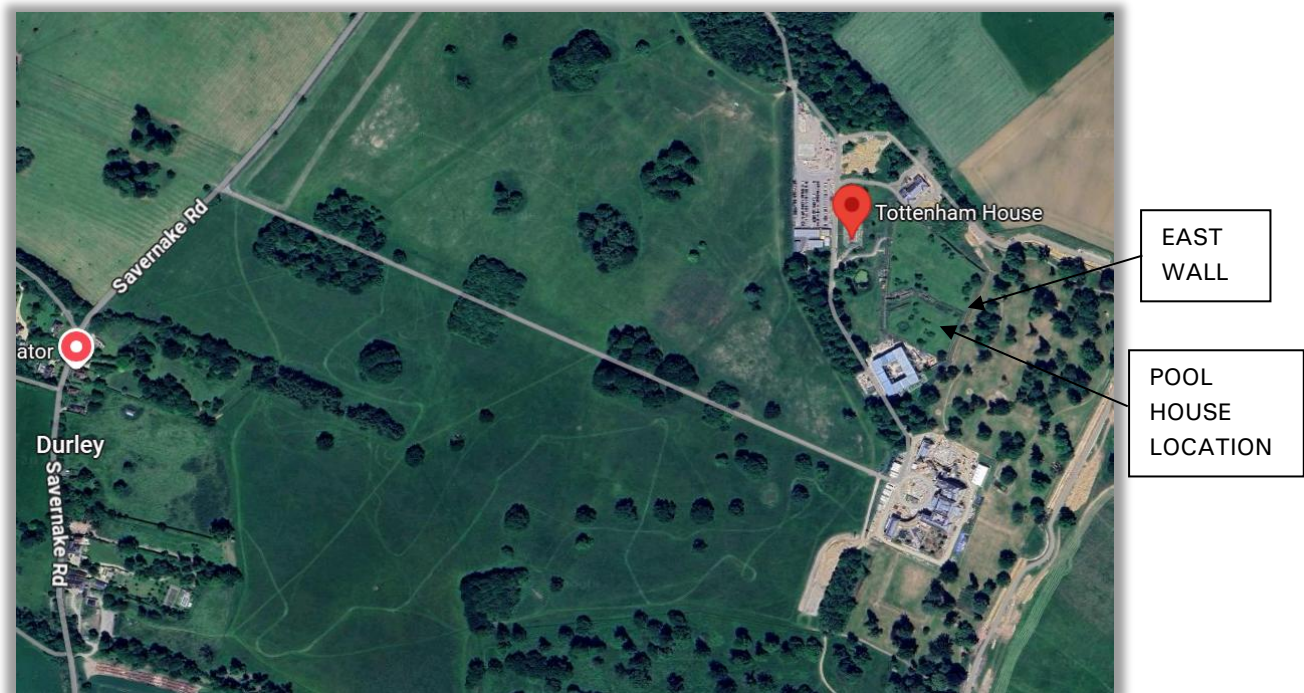


Figure 1: Map showing the Pool House location and surrounding area of the property.

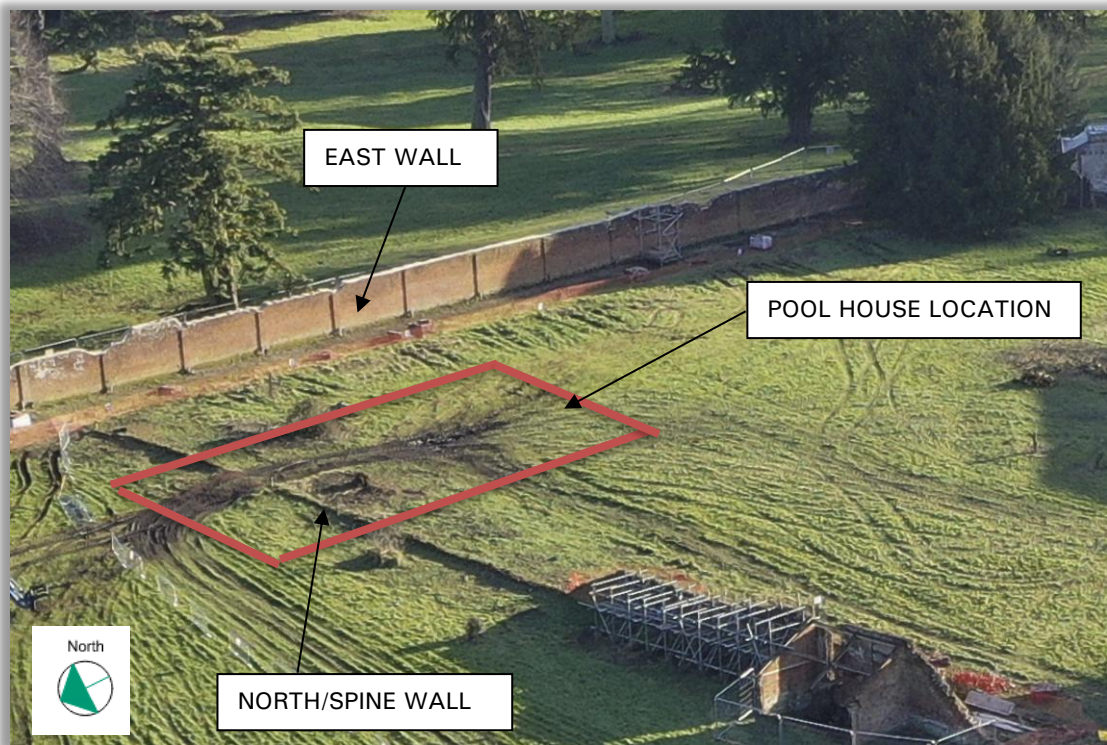


Figure 2: Ariel photograph showing the location of the proposed Pool House within the walled gardens.



Figure 3: Land photograph showing the extent and scale of "North/Spine Wall" within the walled gardens.

4 MONITORING PROPOSAL

The objective of the monitoring of the walls is to ensure that the planned works do not adversely impact the condition or stability of the walls.

There are two walls of key interest that are adjacent to the proposed Pool House site. We have simplified their naming on Figure 2 as “East Wall” and “North/Spine Wall”, this is an indication of the boundary on which the wall lies.

The North/Spine Wall is an internal wall within the walled garden and its height has been significantly reduced height, this can be seen in Figure 2, and Figure 3. This wall will be visually monitored during the works but there is not enough wall to affix targets to it. The scale of the remaining wall is such that the risk of any instability as a direct consequence of the proposed works is very low.

The East Wall is a boundary wall to the walled garden and its height varies along the length of the wall. The wall has piers at approximately 4.8m spacing and these piers are numbered. The numbering has been transferred on to MBP’s monitoring drawings for ease of reference. The “East Wall” can be seen in Figure 2, and in the background in Figure 3. This wall will be visually monitored during the works, and will have 3D monitoring targets fixed to it along its length. Figure 4 gives examples of 3D self-adhesive targets that would be used. The wall is long and over 5m from the planned piling and excavation of the Pool House, however we are proposing to monitor each of the piers along the zone of interest, piers 057 to 067, and midway on each of the wall panels between these piers. The extent of the monitoring is indicated on MBP’s drawings appended to this document. Please note that at each pier and wall position two level of targets will be installed, the low level, L/L, at 0.5m above ground level, and the high level, H/L, at 2.0m above ground level. The targets indicated in Figure 4, when read, will give levels as well as eastings and northings. The targets are read using industry standard equipment such as the Leica TPS1200 + series indicated in Figure 5.

This will give us a very good indication of how the wall is behaving in all three directions during the works

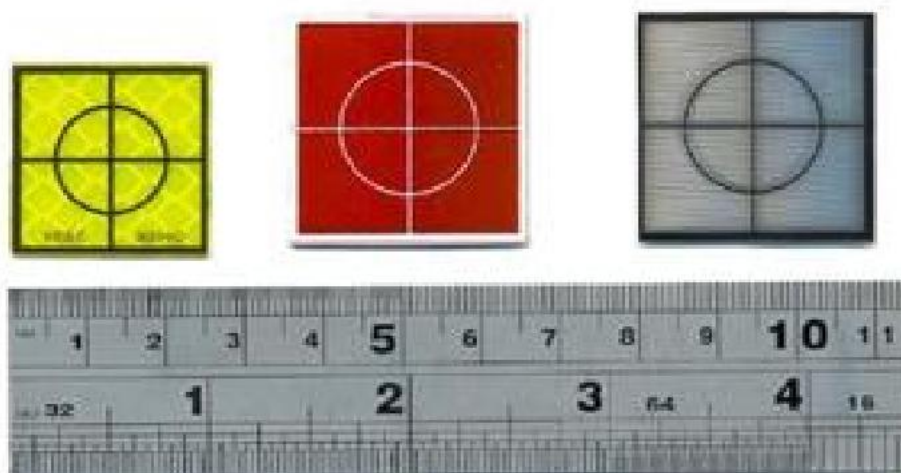


Figure 4: Examples of self-adhesive targets to be fixed to the wall at monitoring positions.

Leica TPS1200+ Series



Figure 5: Image of Leica TPS1200+ Series monitoring equipment.

Once the contractor for the construction of the proposed works has been appointed, their RAMS will be prepared, and will incorporate monitoring proposals in line with this document. For this element they will appoint a professional surveying company to monitor the nearby walls during the five key stages of construction identified in Section 2 above: 2a; 2b; 2c; 2d, and 2e. The monitoring will remain active until a period of two months after the completion of these structural works to ensure that any movement associated with the works has stopped.

These will be prepared by a professional monitoring surveying company be reviewed by the team prior to any works commencing on site.

Monitoring and reporting will take place at the intervals set out in Figure 6:

Activity	Frequency of monitoring
Site set up	Bi-Weekly
Piling and Excavation	Weekly
Installation of substructures up to Ground Floor level	Weekly
Run off after completion of structural works	Weekly for 2 months.

Figure 6: Monitoring interval periods during primary activities.

Elevations of the wall will proposed location of the targets for the walls will be agreed before works start on site and appended to this report.

5 CONTROL MEASURES

We will, via the contractor, monitor the historic walls for movements throughout the principal piling, excavation and construction works.

The monitoring regime and frequency proposed is set out in the previous Section 4 on table in Figure 6.

Target monitoring will monitor rear facades with an accuracy of $\pm 2\text{mm}$. The results of the monitoring will be collated within a report and published at the frequency stated above. These will be issued by email to the project engineer and the rest of the team, on the day that the results are taken. The results are to be presented both in table and graphical form with the graphs for each point plotting the readings taken against time. Each report will also include the following:

- A. Date of Survey
- B. Conditions at time of survey
- C. Eastings, northings and level information for each target
- D. Movements in mm, of the eastings, northings, and levels
- E. Movements in mm relative to the Baseline readings
- F. Movements in mm relative to the last readings.

These results will be interrogated and measured against the agreed trigger levels:

- The Green/Amber trigger level will be 6mm
- The Amber/Red trigger level will be 10mm

In the event of any movements exceeding the agreed target levels the method of works will be reviewed and altered as necessary.

These actions are set out below in Figure 7.

Trigger Level	Action
Green/Amber	Immediately notify the engineers.
	Review the situation on site and report back to the team
Amber/Red	Contractor to stop all works and immediately notify the engineers.
	Contractor and project engineer to put forward proposals, such as additional propping, to limit further movement to an acceptable level.

Figure 7: Triggers and Actions during monitoring.

5.1 LOCATION OF THE TARGETS

Appended to this report are a set of three drawings that set out of location of the proposed works, the proximity of these works to the historic walls, and the proposed locations of the monitoring regime. Extracts of these drawings is given on Figure 8, Figure 9, and Figure 10.

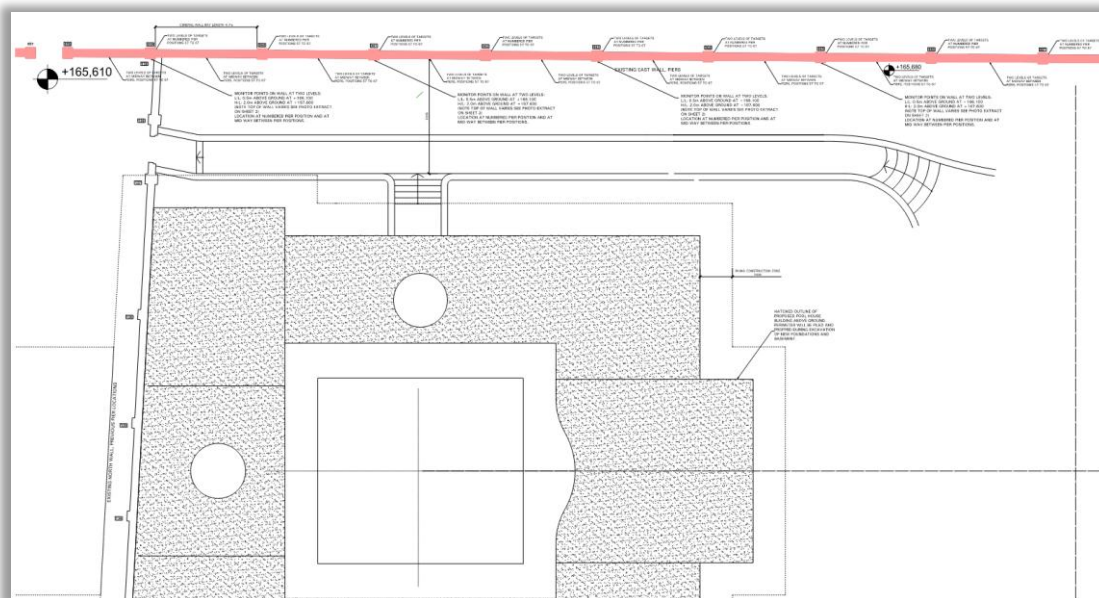


Figure 8: Extract of 10442-MBP-PH-00-DR-S-03-0001.



Figure 9: Extract of 10442-MBP-PH-XX-DR-S-03-0002.

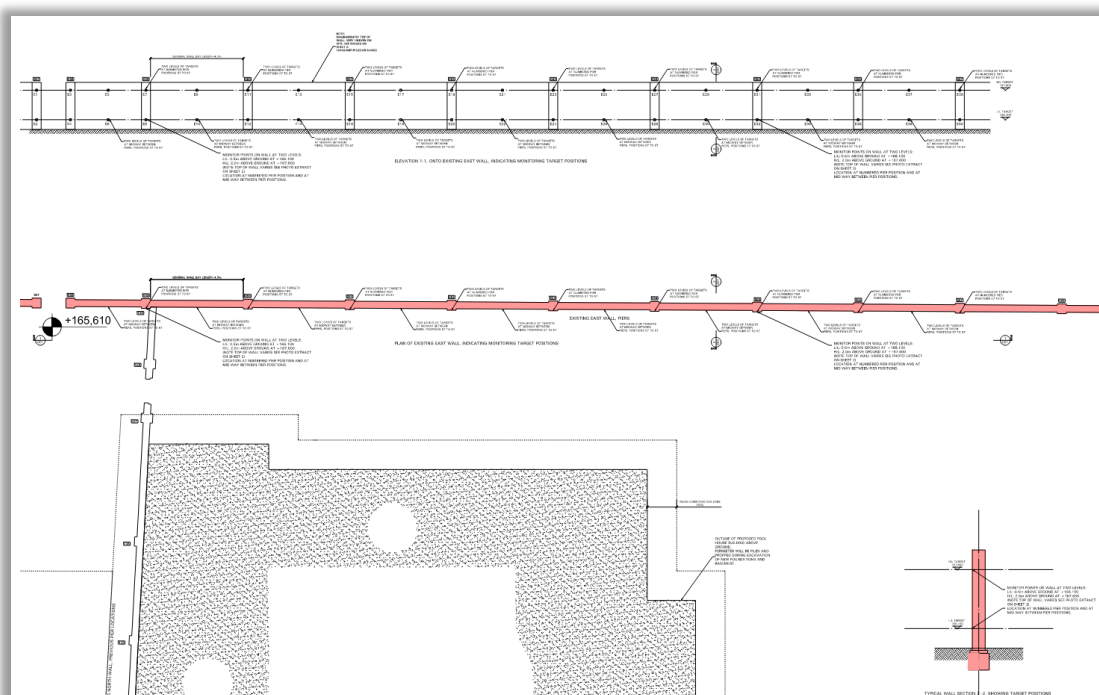


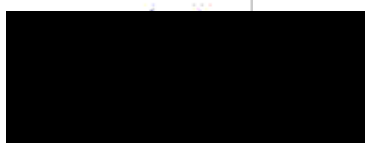
Figure 10: Extract of 10442-MBP-PH-XX-DR-S-03-0003.

All of the above is to be agreed with the team, installed on site, and base readings taken prior to the commencement of the piling enabling works on site.

6. CONCLUSION

With the monitoring and control measures outlined in this report the works at the Pool House can be executed in a safe and controlled manner with minimum impact on the adjacent historic walls.

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Principal Director, for MBP Ltd
Date: 25:09:30

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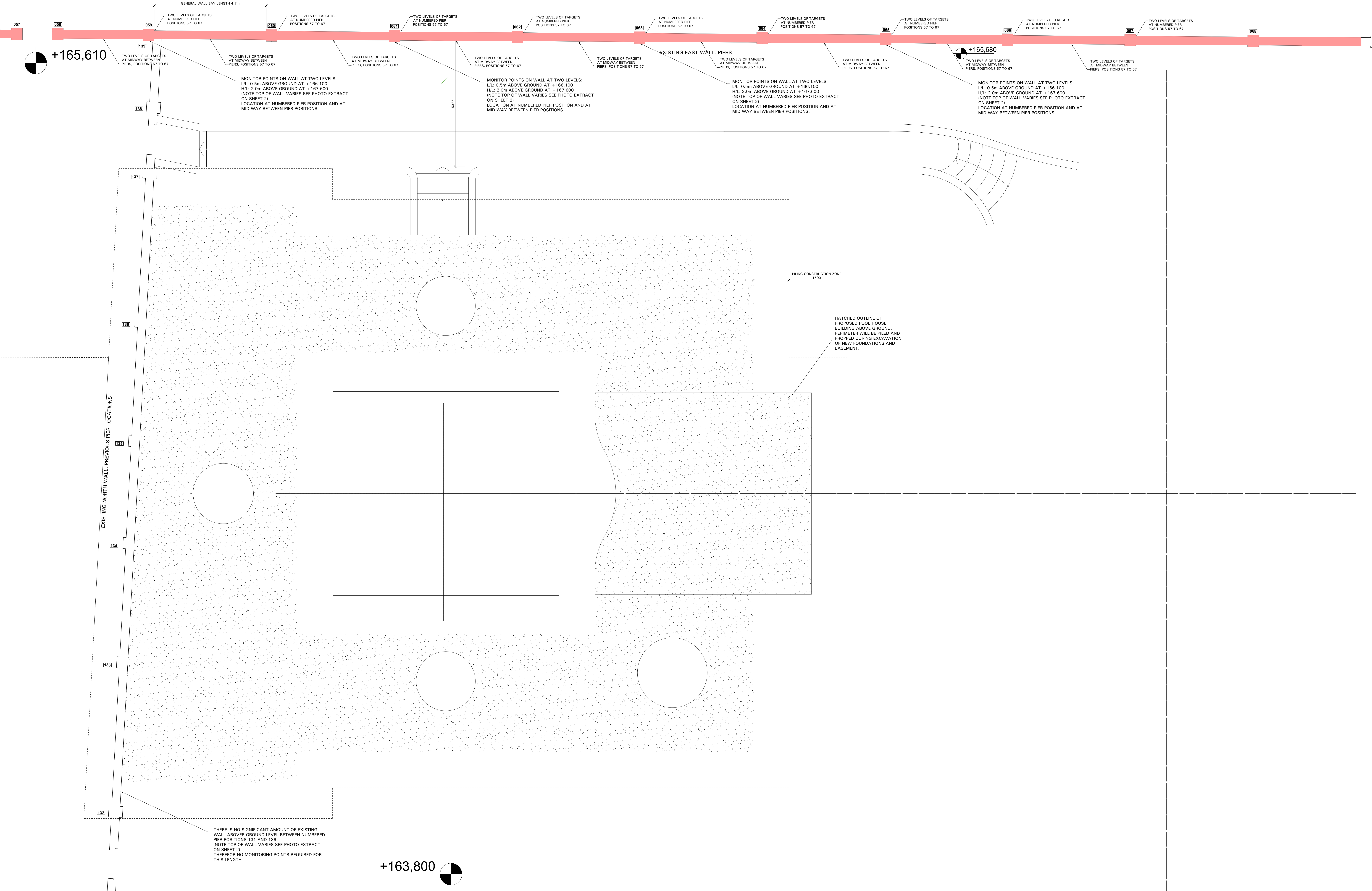
September 2025

Appendix A – MBP Drawings

10442-MBP-PH-00-DR-S-03-0001-P1

10442-MBP-PH-ZZ-DR-S-03-0002-P1

10442-MBP-PH-ZZ-DR-S-03-0003-P1



NOTES:

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2. FOR SETTING OUT REFER TO ARCHITECT'S DRAWINGS.

3. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.

4. DO NOT SCALE FROM THE DRAWING OR THE COMPUTER DIGITAL DATA. ONLY FIGURED DIMENSIONS TO BE USED.

Project Title

POOL HOUSE,
TOTTENHAM HOUSE &
ESTATE, WILTSHIRE

Drawing Title

SITE PLAN
EXISTING WALLS
MONITORING PROPOSALS-SHT 1

Scale @ A0

1:50

Date

25/09

Drawn

TH

Checked

KG

MBP

Consulting Engineers

Drawing Status

SD - WORK IN PROGRESS

Revision

P01

Project

10442-MBP-PH-00-DR-S-0001

Project

Originator

Volume

Level

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Pier

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BB Kingway

London WC2B 6AA

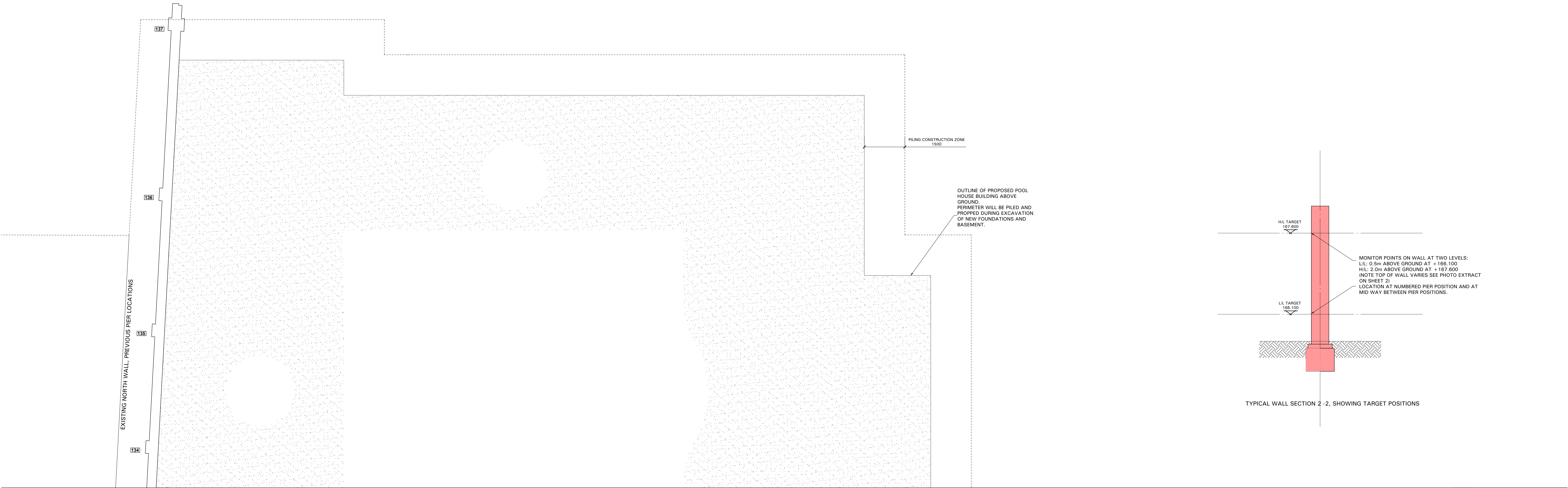
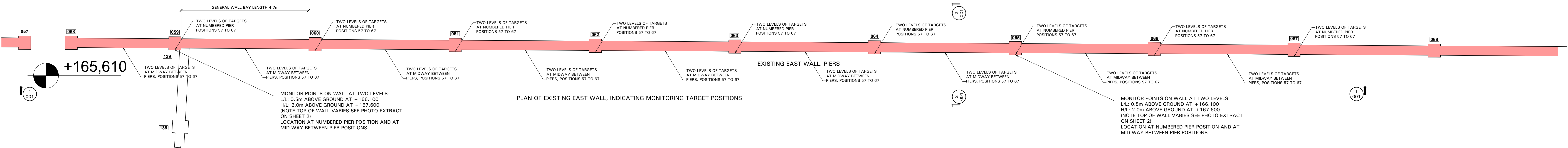
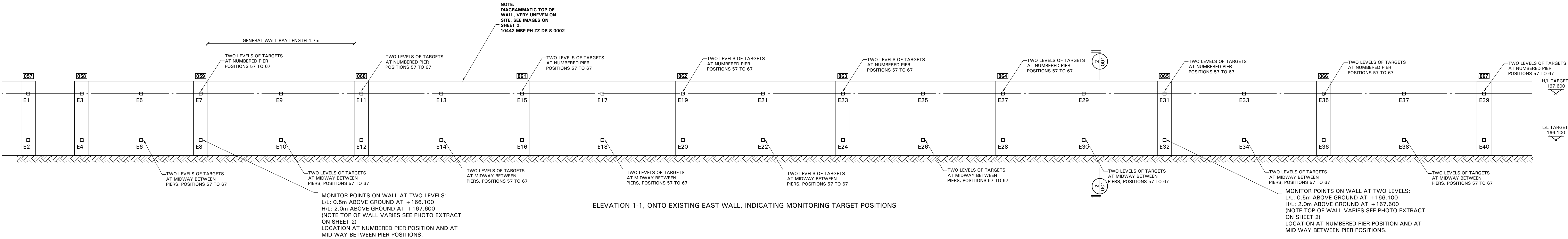
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2. FOR SETTING OUT REFER TO ARCHITECT'S DRAWINGS.		Drawing Status		SD - WORK IN PROGRESS		Revision		R01		London WC2B 6AA		T 020 7240 1191	
3. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.		Project Drawing ID		10442-MBP-PH-XX-DR-S-0003		London@mbp-uk.com		W mbp-uk.com		Copyright MBP Ltd © All rights reserved in chapter IV of the Copyright Designs and Patents Act 1988 have been generally assigned.		MBP Ltd is the trading name of Michael Bailey Projects Ltd a Limited Company registered in England and Wales - Reg No 11550031 Registered address 88 Kingway, London, WC2B 6AA	
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		Rev		Date		Description		BY		Type		Risk	
		P01		17/01		PRELIMINARY ISSUE							