



MOVEMENT MONITORING SPECIFICATION

FOR

**8 ST CUTHBERTS ROAD
LONDON
NW2 3QL**

**CLIENT: Mr. SIJI ADESEMOWO
PROJECT NO: P3897**



APRIL 2018

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DOCUMENT CONTROL SHEET

Project Title	8 St Cuthberts Road NW2 3QL	Project No.	P3897
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Issue No.	Status	Date	
1.0	Preliminary Issue for BIA	16/04/2018	

1.00 MEASUREMENT MONITORING OF ADJOINING BUILDINGS AND STRUCTURES

1.01 Adjoining Properties

The adjoining properties, (No. 8b St Cuthberts Road and No.2 Kingscroft Road) shall be monitored for line and level during piling, excavation and construction of the basement and ground floor at No. 8 St Cuthberts Road. The monitoring shall be by means of reflective targets, fixed to the adjoining structures, the movements of which shall be measured to an accuracy of +/- 2mm.

1.02 Monitoring Points for the Adjoining properties

The Monitoring Points for the adjoining properties will be positioned as follows:-

- No. 8b St Cuthberts Road: on the South-West, front and side elevations,
- No. 2 Kingscroft Road: on the North-East, front and side elevations.

The location of the above buildings is shown in **Figure 1** below.



Figure 1
Buildings to be monitored

Annotated Land Survey

The proposed locations of monitoring points are shown in **Figure 2** and **Table 1** below. These locations are to be agreed and confirmed as acceptable by the Monitoring Contractor, Michael Alexander and the Adjoining Owner. Position of targets shall take into consideration the monitoring information requirements and the access available to fix and sight the targets.

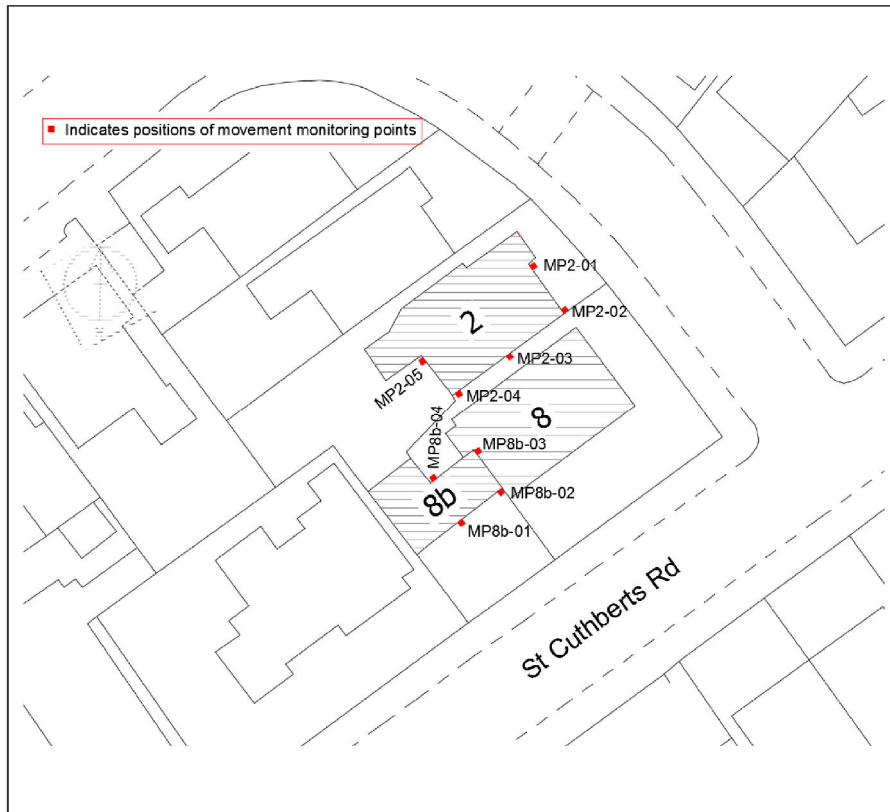


Figure 2
Monitoring point location plan

Monitoring Point Reference Number	Building address	Height from ground floor (m)
MP 8b-01	No. 8b St Cuthberts Road	3.8m (or eaves level)
MP 8b-02	No. 8b St Cuthberts Road	2.8m (or eaves level)
MP 8b-03	No. 8b St Cuthberts Road	2.0m (or eaves level)
MP 8b-04	No. 8b St Cuthberts Road	2.0m (or eaves level)
MP 2-01	No. 2 Kingscroft Road	6.0m (or eaves level)
MP 2-02	No. 2 Kingscroft Road	6.0m (or eaves level)
MP 2-03	No. 2 Kingscroft Road	6.0m
MP 2-04	No. 2 Kingscroft Road	6.0m (or eaves level)
MP 2-05	No. 2 Kingscroft Road	6.0m (or eaves level)

Table 1
Suggested height for Monitoring Points

2.00 RECORDING OF RESULTS

2.01 All readings shall be presented in an electronic format on drawings and schedules and emailed to all interested parties, within 24 hours of taking the reading. The presentation shall provide an absolute value, as well as the relative movement to the previous reading and cumulative movement to the initial reading. Refer to **Table 2** for a suggested format for illustrating monitoring results.

Monitoring Point	Original Coordinate Readings (m)	Current Coordinate Readings (m)	Difference Between Current and Original Readings (mm)	Difference Between Current and Previous Readings (mm)	Axes
	Date: DD/MM/YY	Date: DD/MM/YY			
MP 2-01					X
					Y
					Z
MP 2-02					X
					Y
					Z
MP 2-xx					X
					Y
					Z

Table 2
Suggested Format for Monitoring Records

The monitoring results shall also be clearly presented on relevant graphs with axes clearly identified and units displayed. These graphs will illustrate the trigger value limits, to enable quick reading of the monitoring results.

All monitored displacements will be displayed in millimetres.

2.02 If a cumulative movement of any of the monitoring points reaches the 'Trigger Value', Works shall be stopped and appropriate Action shall be taken. The Action will be dependent on the direction of movement and the activity being carried out at the time.

2.03 An initial set of monitoring readings shall be taken following installation of all target points.

A second set of monitoring readings shall be taken prior to commencement of works. The second set of readings will establish the differences which can be attributed to the accuracy of readings, seasonal variation in the ground conditions, and thermal/moisture movement in the buildings, when no significant works have been carried out.

Subsequent monitoring readings shall be taken at intervals stated in Clause 3.02, which correspond to the relevant construction works occurring at that period of time.

2.04 The monitoring results shall be forwarded by Michael Alexander to the Building Owners Surveyor, Adjoining Owners Surveyor and his Advising Structural Engineer, within 48 hours of recording.

3.00 CONSTRUCTION PROGRAMME & MONITORING FREQUENCY

3.01 Construction Programme

The main items from the Preliminary Construction Programme are summarised in the Table below. The dates are indicative only, but will be updated to correspond to the latest Construction Programme, when received.

ACTIVITY	START DATE	END DATE
Demolition	T.B.C.	T.B.C.
Piling	T.B.C.	T.B.C.
Underpinning	T.B.C	T.B.C
Capping Beam and Installation of Props to Capping Beam	T.B.C	T.B.C
Excavation	T.B.C	T.B.C
Basement Raft Slab	T.B.C	T.B.C
Basement Walls & Columns	T.B.C	T.B.C
Ground Floor Slab	T.B.C	T.B.C
Removal of Temporary Props	T.B.C	T.B.C
Superstructure	T.B.C	T.B.C
Roof	T.B.C	T.B.C

Construction Programme

3.02 Proposed Frequency of Readings of Monitoring Points on Adjoining Properties and Perimeter Pile Inclometers

During Construction - commencement of Piling and Underpinning to completion of construction of Ground Floor Slab.

- The readings shall be taken at 2 weekly intervals.

Post Construction:

- A final set of readings shall be taken 4 weeks after completion of construction of the overall structure.

Monitoring of the proposed capping beam will be carried out daily by the contractor's site engineers, when any significant item of excavation is being carried out.

4.00 INTERPRETATION & ACTION

4.01 Trigger Levels

The following system of control shall be employed. The Trigger value, at which the appropriate action shall be taken, for each section, is given in Clause 4.02

AMBER: Increase monitoring frequency and undertake a detailed review of construction methods. Prepare a revised method of working.

RED: Stop any further excavation. Make safe the excavation. Review monitoring regime and implement revised plan of works.

4.02 The Trigger Levels shall be as follows:

Adjoining Property No. 8b St Cuthberts Road

X-axis (along the plane of the wall)	Amber:	+/- 5 mm
	Red:	+/- 6.5 mm
Y-axis (perpendicular to the wall)	Amber:	+/- 5 mm
	Red:	+/- 6.5 mm
Z-axis (level vertically)	Amber:	+/- 4 mm
	Red:	+/- 5 mm

Adjoining Property No. 2 Kingscroft Road

X-axis (along the plane of the wall)	Amber:	+/- 5 mm
	Red:	+/- 6.5mm
Y-axis (perpendicular to the wall)	Amber:	+/- 5 mm
	Red:	+/- 6.5 mm
Z-axis (level vertically)	Amber:	+/- 4 mm
	Red:	+/- 5 mm

4.03 Action

Any movements which exceed the **Amber** Trigger Levels shall be immediately reported to Michael Alexander.

In the event of movements exceeding the **Amber** Trigger Levels, the proposed frequency of readings of Monitoring Points on the Adjoining Property shall be increased.

Representatives from Michael Alexander and the Adjoining Owner Representatives shall then meet on site, as soon as practicable, to review the works being carried out, to inspect the property and to decide and agree on the appropriate Action to be taken.

Any movements which exceed the **Red** Trigger Levels shall be immediately reported to Michael Alexander and appropriate action will be agreed and a meeting will be convened with the Adjoining Owners' Representatives.

4.04 Cessation of Works due to Unforeseen Circumstances

If the programme is revised significantly, the Monitoring Regime will be re-evaluated in conjunction with Michael Alexander and the Adjoining Owners' Representatives.