

MONITORING ACTION PLAN NOTES

1. CONDITION SURVEY OF EXISTING BUILDINGS AND STRUCTURES

BEFORE STARTING WORK: SURVEY STRUCTURE. RECORD AND TAKE PHOTOGRAPHS OF DAMAGED OR DEFECTIVE AREAS ITEMS TO BE RECORDED; LOCATION, EXTENT AND MAGNITUDE OF CRACKS, SPALLING. INDICATIONS OF MOVEMENT, PREVIOUS REPAIRS, MODIFICATIONS AND OTHER IRREGULARITIES OF THE FABRIC. ADDITIONAL INVESTIGATIONS: INSPECT WALLS FOR EVIDENCE OF BONDING TIMBERS, INSPECT WALLS FOR EVIDENCE OF HAZARDOUS MATERIALS. PROPOSE ANY FURTHER INVESTIGATIONS REQUIRED TO VALIDATE PROPOSED METHODOLOGY.

NOTE: INVESTIGATIONS TO SURROUNDING BUILDINGS WITH CONSENT OF OWNER ONLY. INFORMATION SUPPLIED: GIVE NOTICE OF ANY AREAS OF VARIANCE TO CONTRACTORS CONDITION SURVEY AS PER ITEM 1 ABOVE. REPORT: SUBMIT FOR COMMENT. INCLUDE RECOMMENDATIONS: FOR REPAIR OR MONITORING OF DEFECTS THAT COULD ADVERSELY AFFECT THE STRUCTURAL ADEQUACY OF THE EXISTING BUILDINGS AND FACADES WHILE TEMPORARILY SUPPORTED AND FOR MONITORING CRACK WIDTHS.

2. MONITORING GENERALLY

OUTLINED ON THE RELEVANT AKT II DRAWINGS. ALL PERMANENT MONITORING TO BE INSTALLED A MINIMUM OF 4 WEEKS PRIOR TO COMMENCEMENT OF CONSTRUCTION. AT LEAST 3 CONSISTENT BASE READINGS TO BE ESTABLISHED AND MAY REQUIRE A PERIOD OF 2 TO 4 WEEKS PRIOR TO COMMENCEMENT OF MONITORING DUE TO DAILY THERMAL EFFECTS. THIS MONITORING SHALL INCLUDE:

IXX: ELECTRONIC LEVELLING (3D) OF TARGETS ON PERIMETER WALLS WITH FREQUENCY AS OUTLINED TO INCLUDE VERTICALITY/TILT, LATERAL MOVEMENT, LEVEL AND LONGITUDINAL MOVEMENT.

CXX: ELECTRONIC LEVELLING (3D) OF TARGETS SET IN CAPPING BEAM POSITIONED TO BE ACCESSIBLE THROUGHOUT THE WORKS, TOTAL STATION MONITORING XYZ SPACIAL COORDINATES.

VXX: VIBRATION TRANSDUCER INSTALLED AS NEAR AS PRACTICABLE TO FOUNDATION LEVEL

TSXX: TOTAL STATION MEASUREMENTS WITH RETROREFLECTIVE TARGETS OR MINI PRISMS

SXX: GROUP OF SETTLEMENT POINTS (MINIMUM OF 3 BEHIND THE WALL AT THE LOCATIONS OF CXX AND IXX) SURVEYED BY PRECISE LEVELLING

3. MOVEMENT MONITORING

REFER TO TABLE

4. SETTLEMENT/ MOVEMENT LIMITS FOR PAVEMENTS

DIFFERENTIAL SETTLEMENT WILL BE LIMITED TO 1/1000 AS PER UKPN REQUIREMENTS.

5. VIBRATION OF EXISTING STRUCTURES (M4)

TO BE READ IN CONJUNCTION WITH AKT II DRAWINGS: STRUCTURAL VIBRATION LIMITS, BUILDING CLASSIFICATION, MEASUREMENT PROCEDURE: THE GENERAL GUIDANCE WITH RESPECT OF VIBRATION IMPACT AND MONITORING PROCEDURES GIVEN IN BS7385 PART 2 AND BS 5228-2:2009 SHOULD BE OBSERVED WHERE APPROPRIATE.

LOCATION OF VIBRATION TRANSDUCERS: AS CLOSE AS PRACTICABLE TO LOCATION INDICATED WITH FINAL LOCATIONS TO BE AGREED WITH AKT II ON SITE. TRANSDUCERS TO BE ADJUSTED FOR ATTENUATION AS NECESSARY. IN ADDITION TO THE LOCATIONS IDENTIFIED WHERE CONTINUOUS MONITORING WILL BE CARRIED OUT, THE SAME THRESHOLDS WOULD APPLY TO OTHER PROPERTIES WITHIN 30 METRES OF THE WORKS.

MONITOR VIBRATION WITHIN BOUNDARY OF 0-7mm/s PPV AS PER UKPN DOCUMENTATION WITH A THRESHOLD VALUE OF 4.5mm/s PPV.

INTERMITTENT AND CONTINUOUS VIBRATION LIMITS (mm/s)		
GREEN	< 4.5 (45 for TW assets)	VIBRATION LEVEL CONSIDERED SAFE
AMBER	4.5 (6 for TW assets)	WORKS SHALL BE STOPPED AND RE-ASSESSED ON SITE TO CONTROL VIBRATION PEAKS
RED	7.0 (10 for TW assets)	WORKS SHALL BE STOPPED IMMEDIATELY AND A UKPN / TW REPRESENTATIVE SHALL BE CALLED TO SITE TO ASSESS THE WORKS

6. FREQUENCY OF MONITORING

A SET OF A MINIMUM OF 4NO. CONSISTENT BASE READINGS IS REQUIRED. ALLOW FOR A PERIOD OF 2 TO 4 WEEKS FOR BASELINE READINGS.

PERIOD BETWEEN SETS OF READINGS: ONE WEEK. FREQUENCY OF SUBSEQUENT MONITORING: WEEKLY, UNTIL 4 WEEKS AFTER COMPLETION OF EXCAVATION, THEREAFTER FORTNIGHTLY. REDUCTION IN FREQUENCY ONLY WHEN AGREED WITH PM.

INCREASE FREQUENCY OF READINGS:
- IF MOVEMENTS ARE ACCELERATING.
- IF THE TREND OF MOVEMENTS CHANGES UNEXPECTEDLY.
- WHILE EXCAVATING ADJACENT TO THAMES WATER ASSETS. ADDITIONAL MONITORING: TAKE A SET OF READINGS IMMEDIATELY FOLLOWING UNAUTHORIZED OR SIGNIFICANT AUTHORIZED AMENDMENT OF RETENTION STRUCTURE. IF TEMPORARY RETAINING STRUCTURES ARE INTRODUCED TO ENABLE REMOVAL OF EXISTING STRUCTURES ADDITIONAL TARGETS WILL NEED TO BE INSTALLED AND A BASELINE READING ESTABLISHED BEFORE REMOVAL OF EXISTING STRUCTURE. THIS IS TO ENSURE THE CONTINUITY OF READINGS. ACCURACY OF TOTAL STATIONS TO BE NO GREATER THAN +/- 2mm
INCLINOMETERS: WALL PILES RECEIVING INCLINOMETERS TO BE EXTENDED TO POINT OF ZERO HORIZONTAL MOVEMENT.

PREDICTED DEFLECTED SHAPE
PILE TO BE EXTENDED TO POINT OF ZERO MOVEMENT
INCLINOMETERS TO BE COORDINATED AND ALIGNED WITH WALL PILES EXTENDED FOR VERTICAL LOADS TO MINIMISE PILES WHICH REQUIRE TO BE EXTENDED.

7. INSTALLATION PHASING

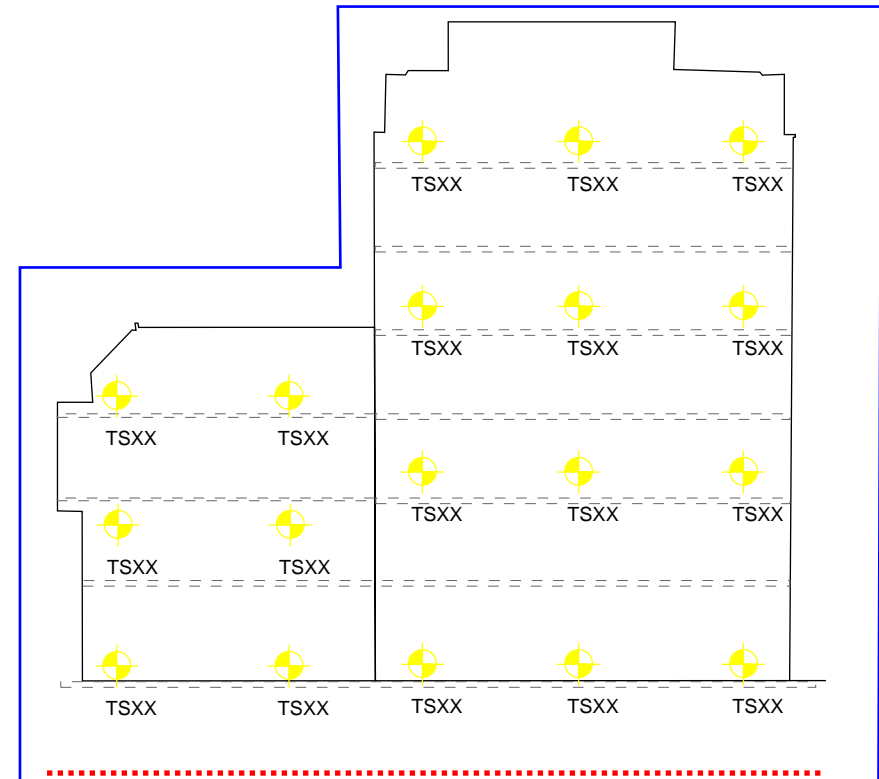
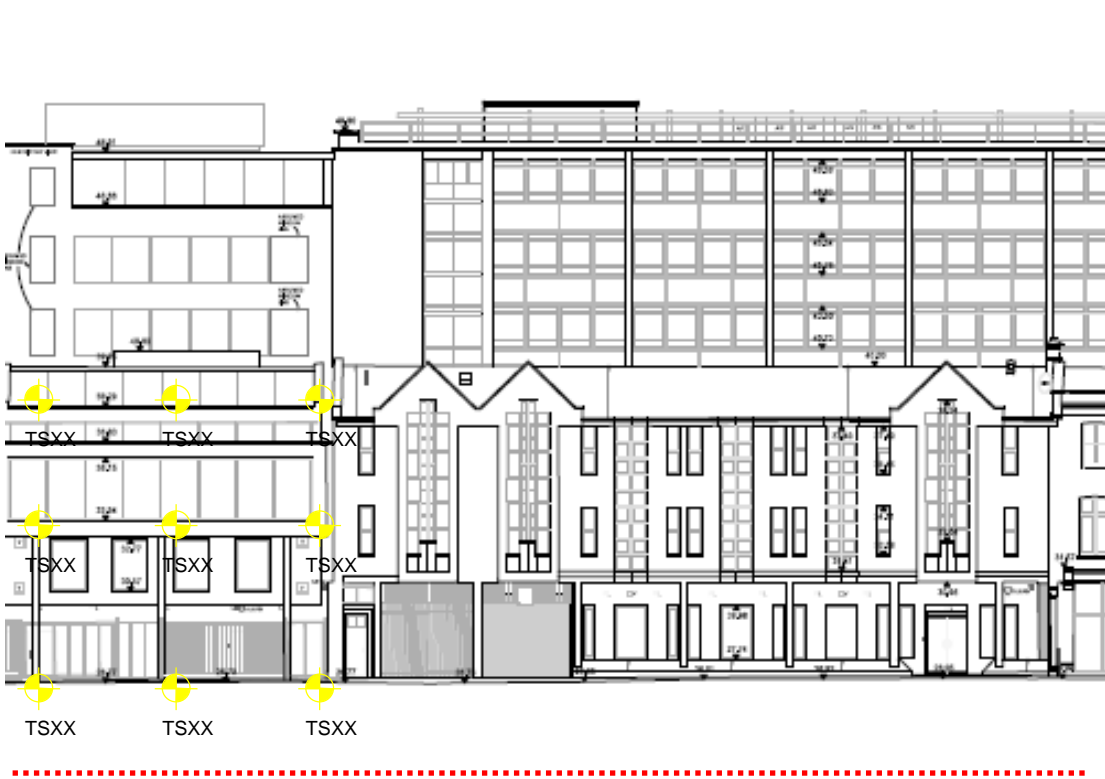
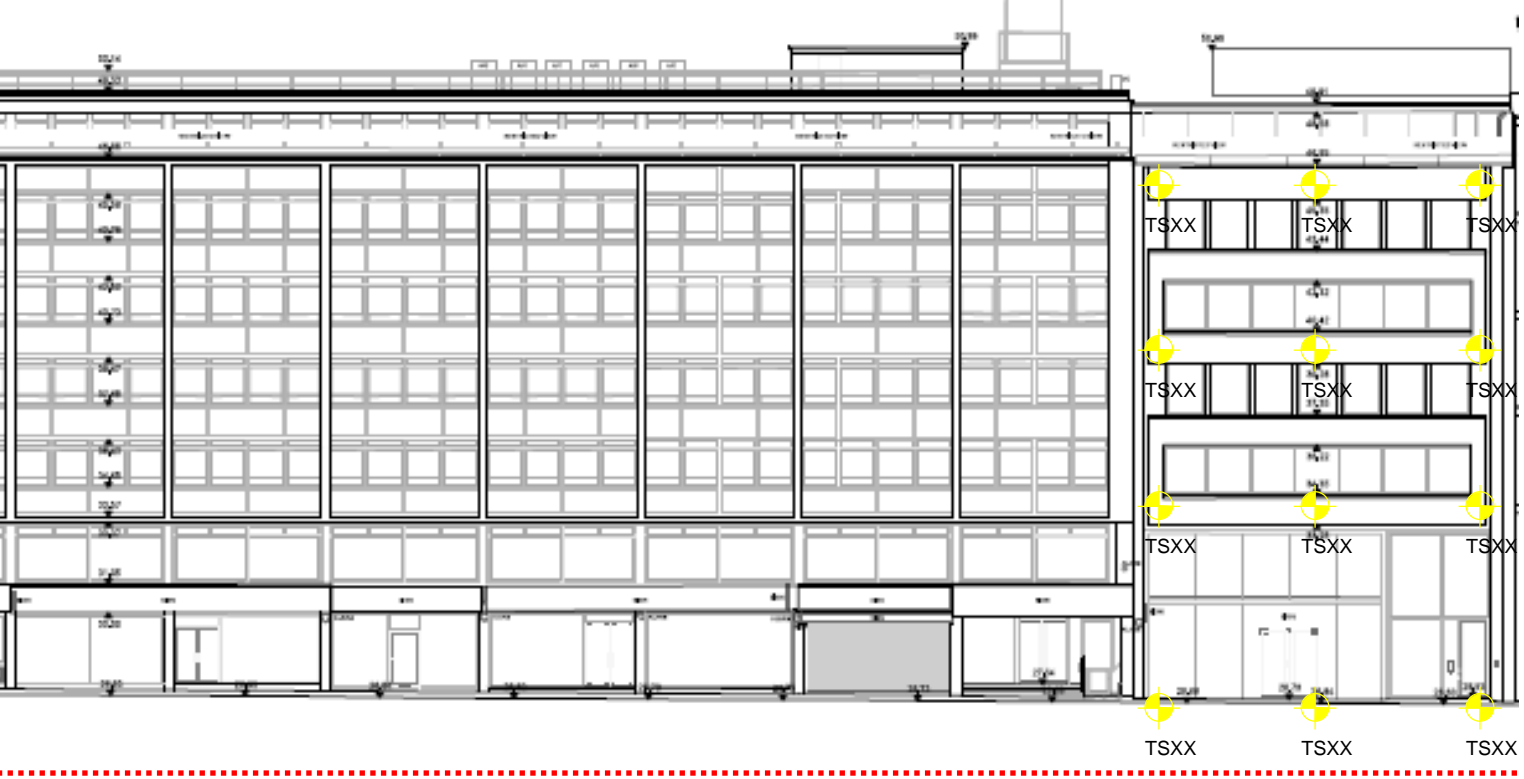
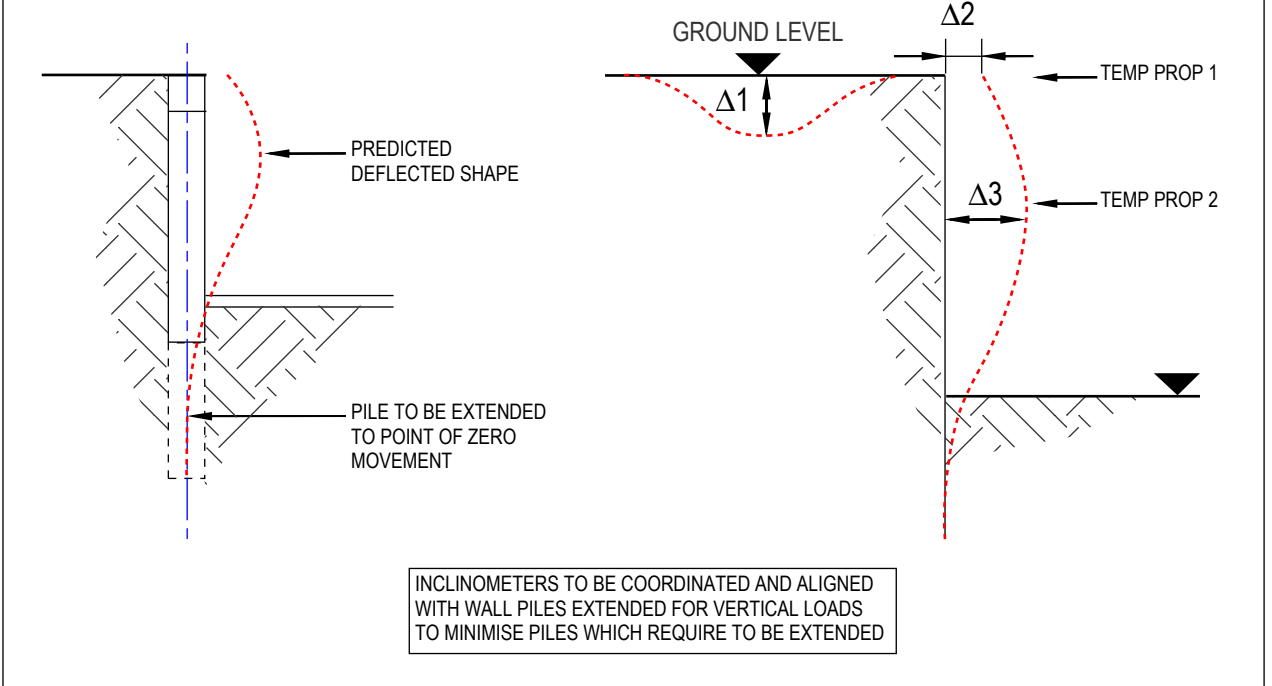
- PHASE 1 PRIOR TO START ON SITE (NOT HIGHLIGHTED FOR CLARITY)
PHASE 2 DURING DEMOLITION (TIMING TO BE COORDINATED WITH CONTRACTOR)
PHASE 3 DURING SECANT PILE INSTALLATION
PHASE 4 FOLLOWING CONSTRUCTION OF CAPPING BEAM

MOVEMENT MONITORING - TRIGGER LEVELS		SETTLEMENT	LATERAL DISPLACEMENT	
		Δ1	AT CAPPING BEAM LEVEL Δ2	AT MID SPAN LEVEL Δ3
WALL TYPE A - SINGLE STOREY BASEMENT	GREEN	<10	<5	<10
	AMBER	10	5	10
	RED	>15	>7	>12
WALL TYPE B - DOUBLE STOREY BASEMENT	GREEN	<12	<5	<12
	AMBER	12	5	12
	RED	>17	>7	>16

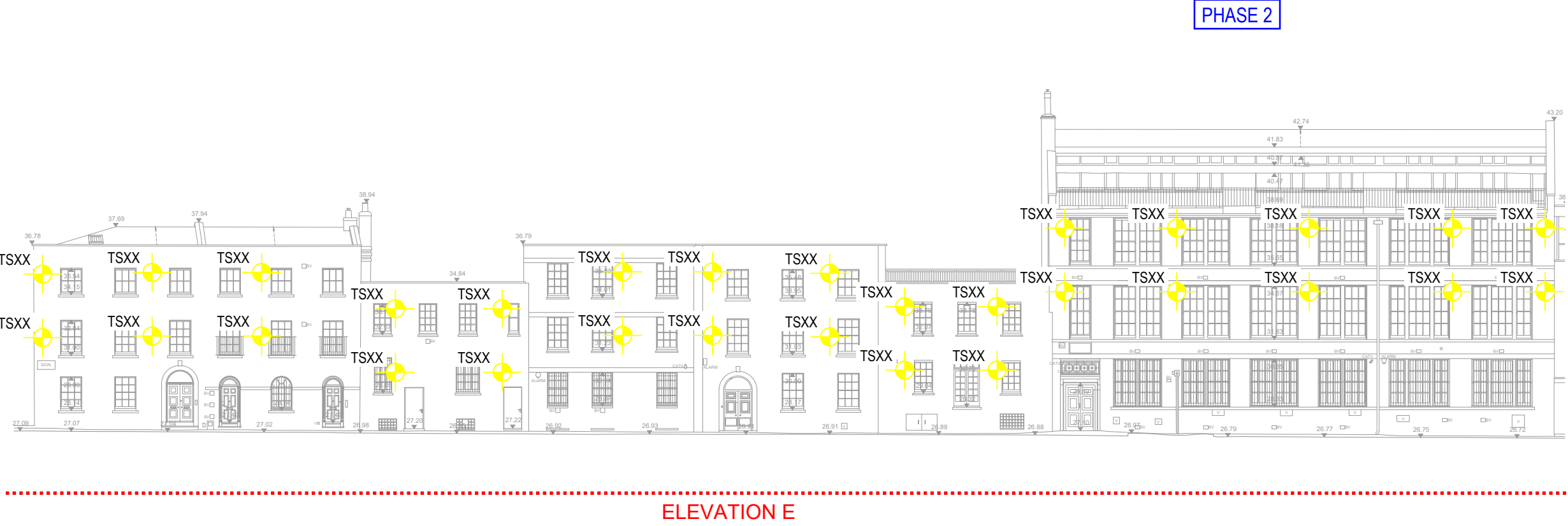
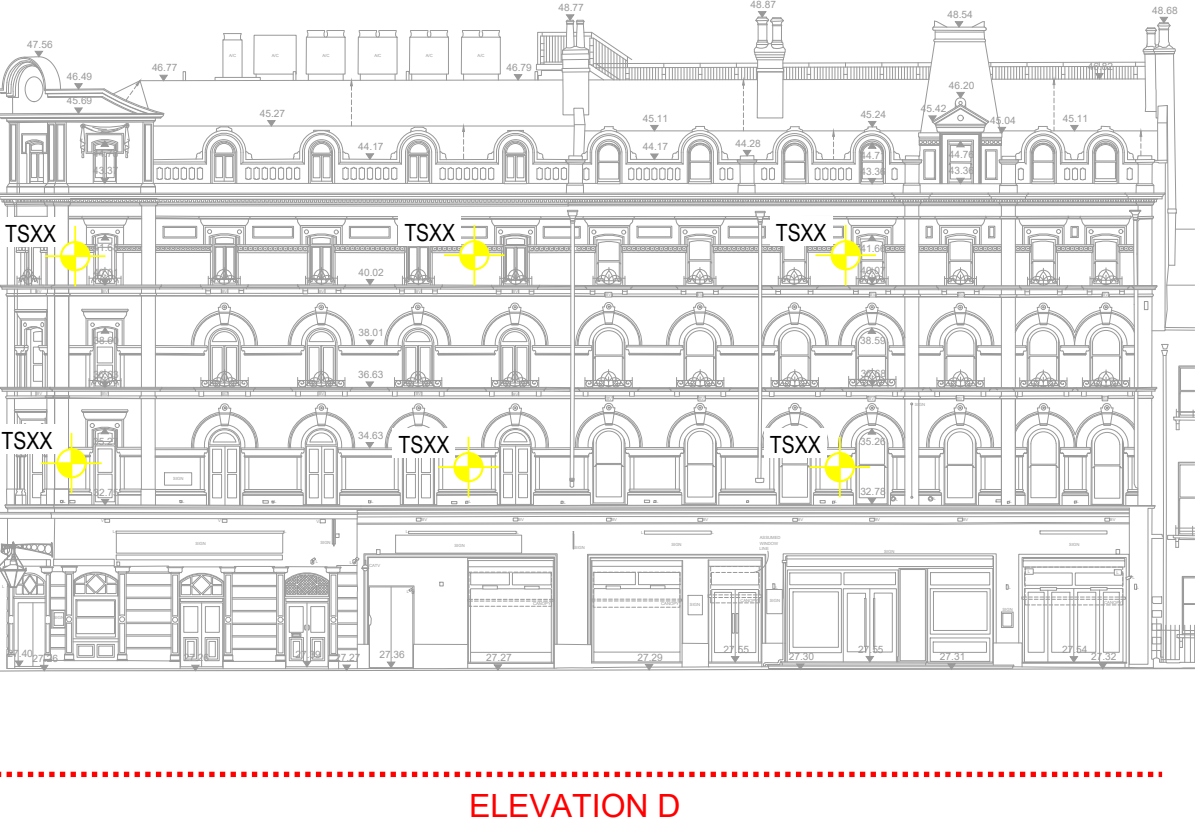
MOVEMENT MONITORING - ACTION REQUIREMENTS

GREEN	- CARRY ON THE WORKS
AMBER	- CONTRACTOR TO NOTIFY PM AND STRUCTURAL ENGINEER THE SAME DAY. - CONTRACTOR TO SET UP A MEETING WITH ALL RELEVANT PARTIES FROM THE DESIGN TEAM AND PROPOSE MITIGATION MEASURES.
RED	- STOP THE WORK AND INSTALL ADDITIONAL TEMPORARY WORKS WHERE POSSIBLE. - CONTRACTOR TO NOTIFY PM, STRUCTURAL ENGINEER AND LUL ON THE SAME DAY. - CONTRACTOR TO SET UP A MEETING ON SITE WITH CLIENT REPRESENTATION AND ALL RELEVANT THIRD PARTY REPRESENTATIVES TO AGREE MITIGATION MEASURES.

DIAGRAMS



LEGEND		NOTE: - IT IS RECOMMENDED THAT MONITORING POINTS ARE INSTALLED ONTO BUILDINGS THAT FALL WITHIN THE BOUNDS OF THE PARTY WALL ACT AND WITHIN NEIGHBOURING STRUCTURES SHARING A BOUNDARY WITH THE SITE. LOCATIONS WITHIN PROPERTIES ARE NOT SHOWN AND ARE TO BE AGREED WITH THE PARTY WALL SURVEYOR. - MONITORING DEVICES SHOULD NUMBERED APPROPRIATELY - POSITIONS OF VIBRATION TRANSDUCERS ARE SHOWN INDICATIVELY. ANY DEVIATION FROM THE PROPOSED POSITIONS TO SUIT ON SITE PRACTICITIES OR CONTRACTOR'S PREFERENCES IS TO BE AGREED WITH THE ENGINEER PRIOR TO INSTALLATION.
PHASE 4	CXX - TOTAL STATION TARGET AT CAPPING BEAM LEVEL	
PHASE 3	IXX - INCLINOMETER IN SECANT WALL MALE PILES AT THE LOCATION OF M1 (INCLINOMETER OR IN-PLACE ELECTROLEVELS, PROJECT TEAM TO CONFIRM)	
	SXX - GROUP OF SETTLEMENT POINTS (MINIMUM OF 3 BEHIND THE WALL AT THE LOCATIONS OF CXX AND IXX) SURVEYED BY PRECISE LEVELLING	
	VXX - VIBRATION TRANSDUCERS	
	PXX - VIBRATING WIRE PIEZOMETER TO THE FORMATION LEVEL	
	TSXX - TOTAL STATION	



PROJECT	THE FITZROVIA	TITLE	MONITORING ACTION PLAN
DATE	21.04.2022	SCALE	NTS
DRAWN	LK	CHECKED	SP
PROJECT No.	4190	DRAWING No.	4190-S-HSK-079
STATUS	TENDER	REV	T2