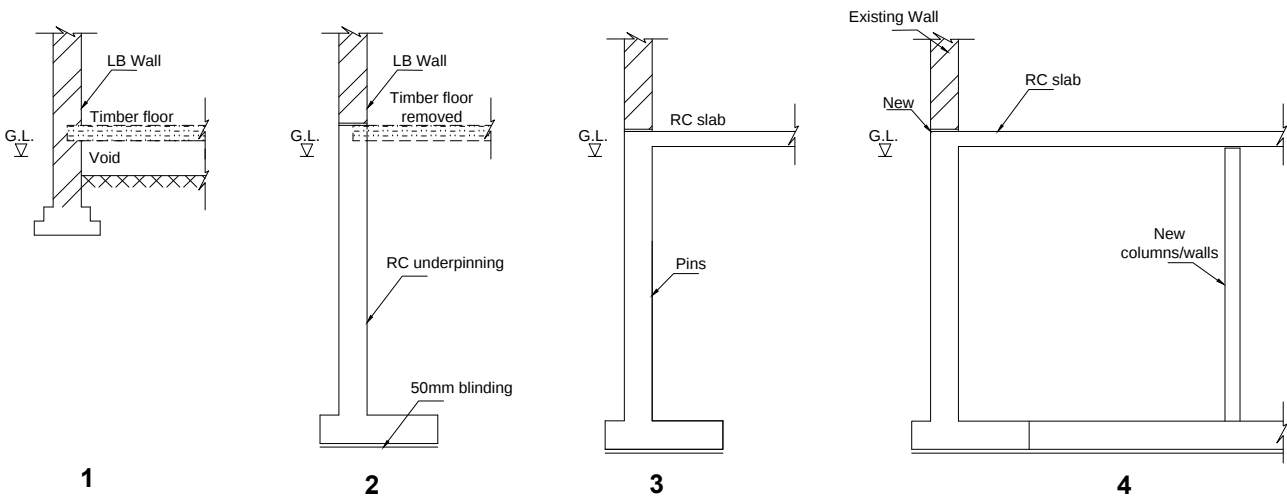
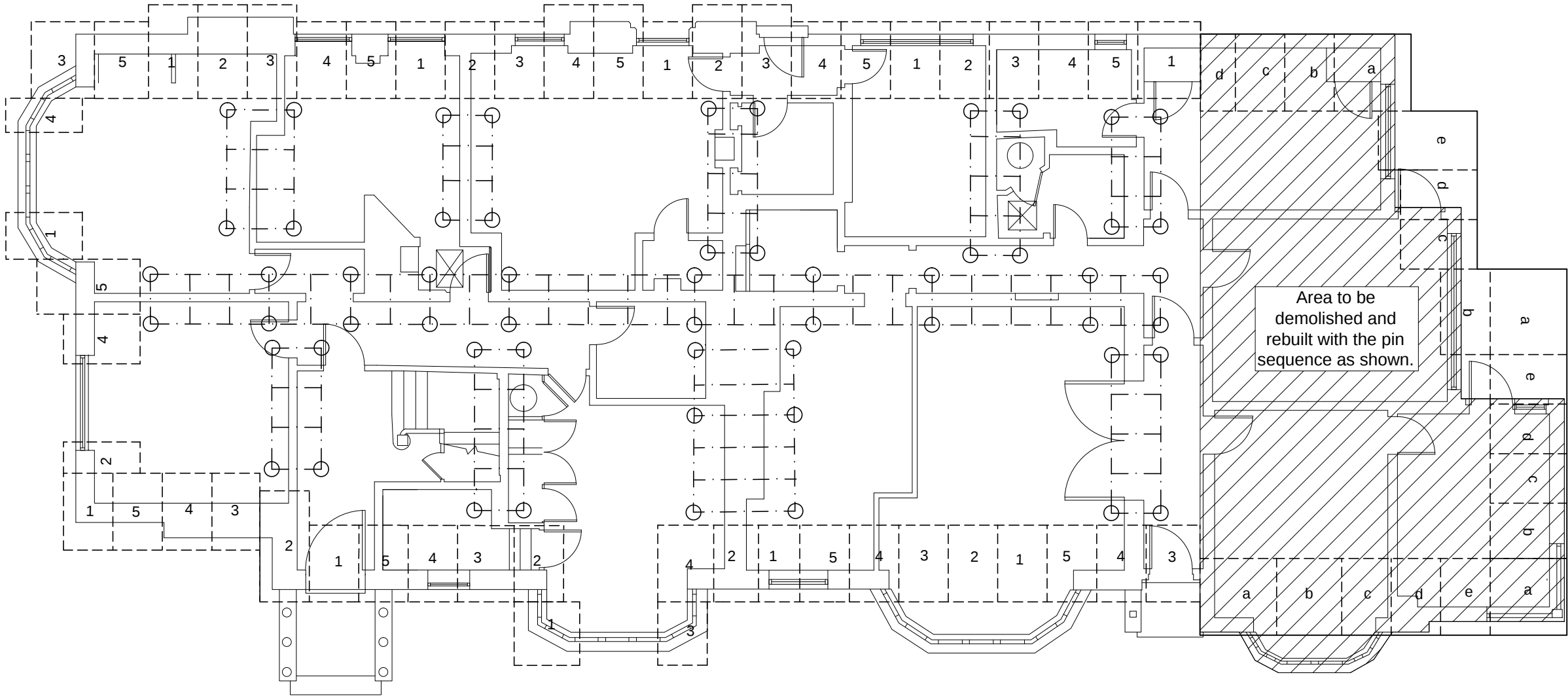


- Notes
1. This drawing is to be read in conjunction with all relevant Architects and Engineer's drawings and specifications.

2. All workmanship and materials are to comply with Specification, Building Regulations, relevant British Standard and manufacturers recommendations.

3. All dimensions are in mm unless noted. This drawing is not to be scaled.
For General Notes Refer to drawing 1550-GN01 to GN03

Note: All underpins are reinforced concrete connected by bent out bars.



Schematic sequence of works
Scale 1:100

012345

FOR PLANNING				
2	28/10/15	For planning	CM	SOH
1	23/10/15	For planning	CM	SOH
REV	DATE	DESCRIPTION	BY	CHKD

CLIENT
MARCUS_COOPER_GROUP

PROJECT
1_WADHAM_GARDENS

TITLE
UNDERPINNING
TEMPORARY_WORKS
&_SEQUENCE

DATE
OCTOBER_2015

PRODUCED BY
CM

SCALE
A1_1:50 A3_1:100

CHECKED
SOH

CAD REF

APPROVED

ORIGINAL DRAWING SIZE A3

CLIENT
MARCUS_COOPER_GROUP

PROJECT
1_WADHAM_GARDENS

TITLE
UNDERPINNING
TEMPORARY_WORKS
&_SEQUENCE

JOB No.
1550

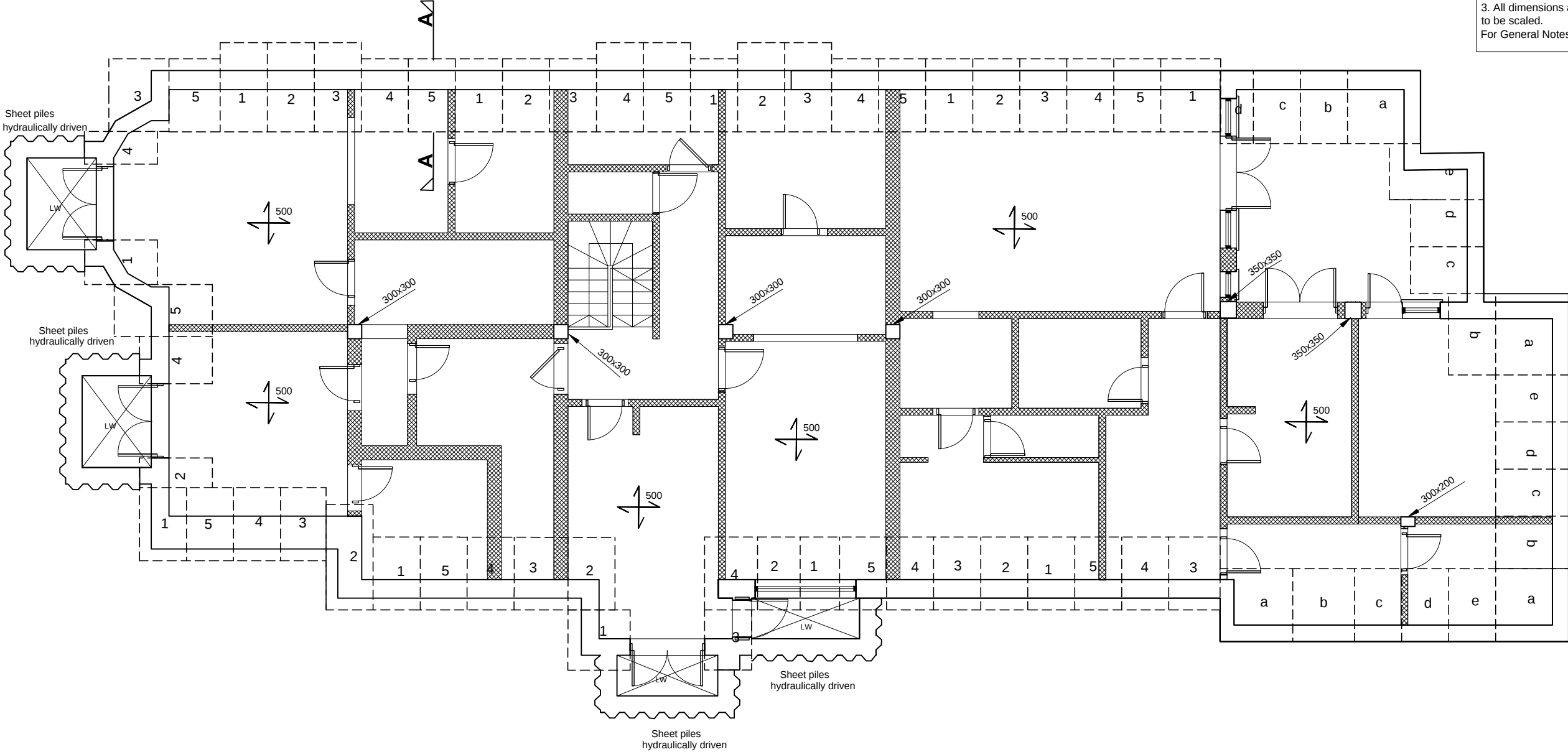
DRAWING No.
01

REV.
2

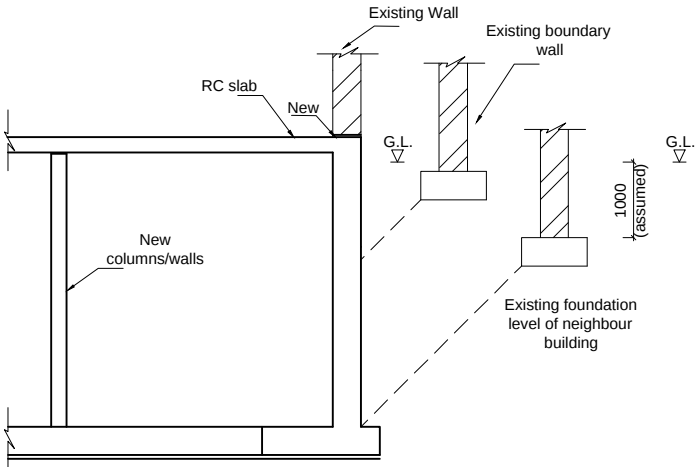
- Notes
1. This drawing is to be read in conjunction with all relevant Architects and Engineer's drawings and specifications.

2. All workmanship and materials are to comply with Specification, Building Regulations, relevant British Standard and manufacturers recommendations.

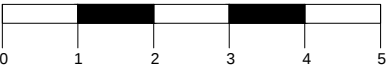
3. All dimensions are in mm unless noted. This drawing is not to be scaled.
For General Notes Refer to drawing 1550-GN01 to GN03



Plan
(Scale 1: 100)

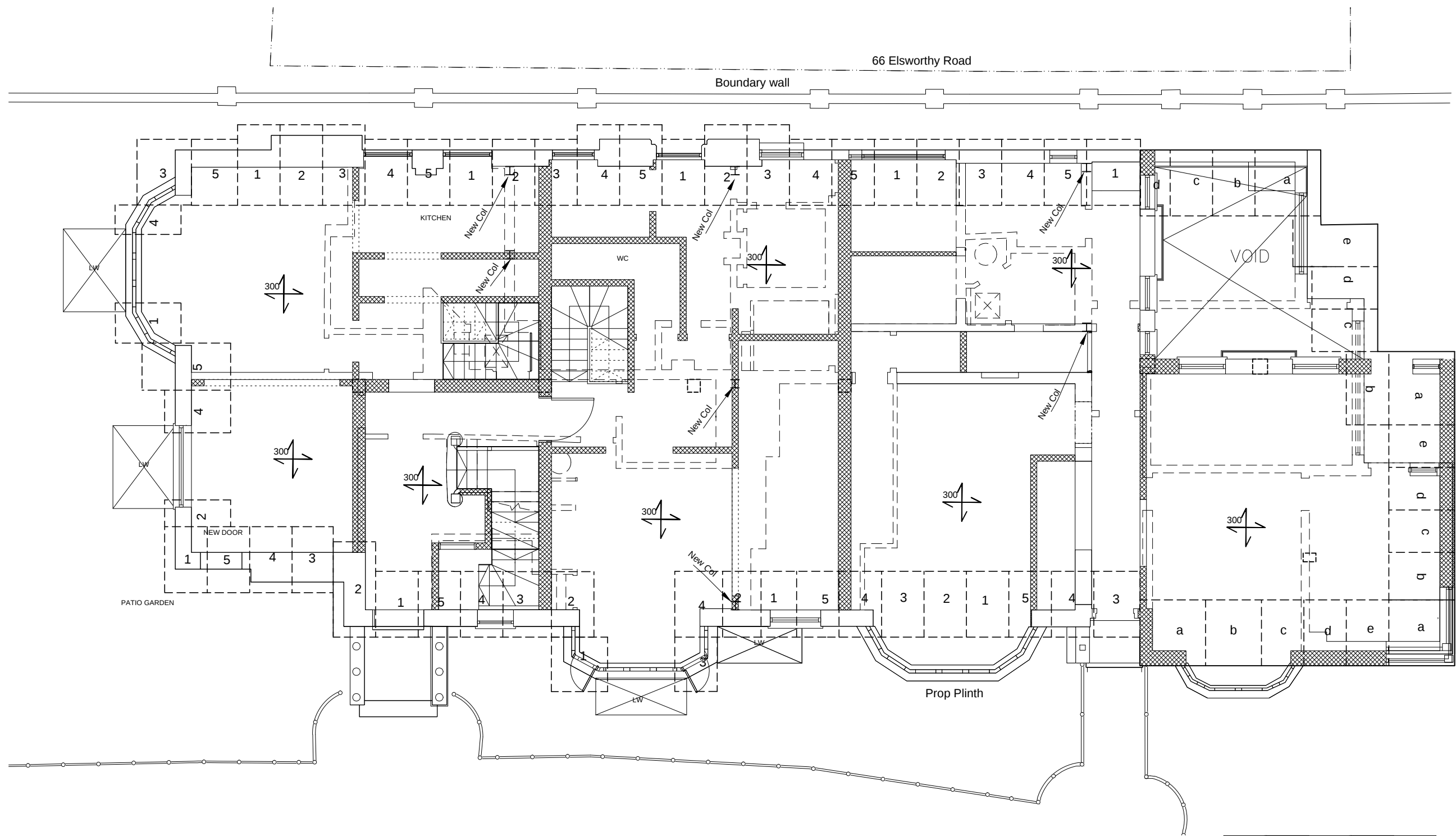


Section A-A



		FOR_PLANNING			
2	28/10/15	For planning	CM	SOH	
1	22/10/15	For planning	CM	SOH	
REV	DATE	DESCRIPTION	BY	CHKD	
CLIENT					
AMEK_PROPERTY_INVESTMENT_LLP					
PROJECT					
1_WADHAM_GARDENS					
LONDON_NW3_3DN					
TITLE					
UNDERGROUND_FLOOR					

DATE		OCTOBER_2015		PRODUCED BY		CM			
SCALE		A1_1:50		A3_1:100		CHECKED		SOH	
CAD REF						APPROVED			
ORIGINAL DRAWING SIZE A3									
Quadrant Harmon Consulting Ltd.									
Consulting Civil & Structural Engineers									
Morley House									
320 Regent Street									
London W1B 3BD									
Tel. 020 7637 2770									
Fax. 020 7436 7823									
JOB No.			DRAWING No.			REV.			
1550			02			2			



- Notes**
1. This drawing is to be read in conjunction with all relevant Architects and Engineer's drawings and specifications.
 2. All workmanship and materials are to comply with Specification, Building Regulations, relevant British Standard and manufacturers recommendations.
 3. All dimensions are in mm unless noted. This drawing is not to be scaled. For General Notes Refer to drawing 1550-GN01 to GN03

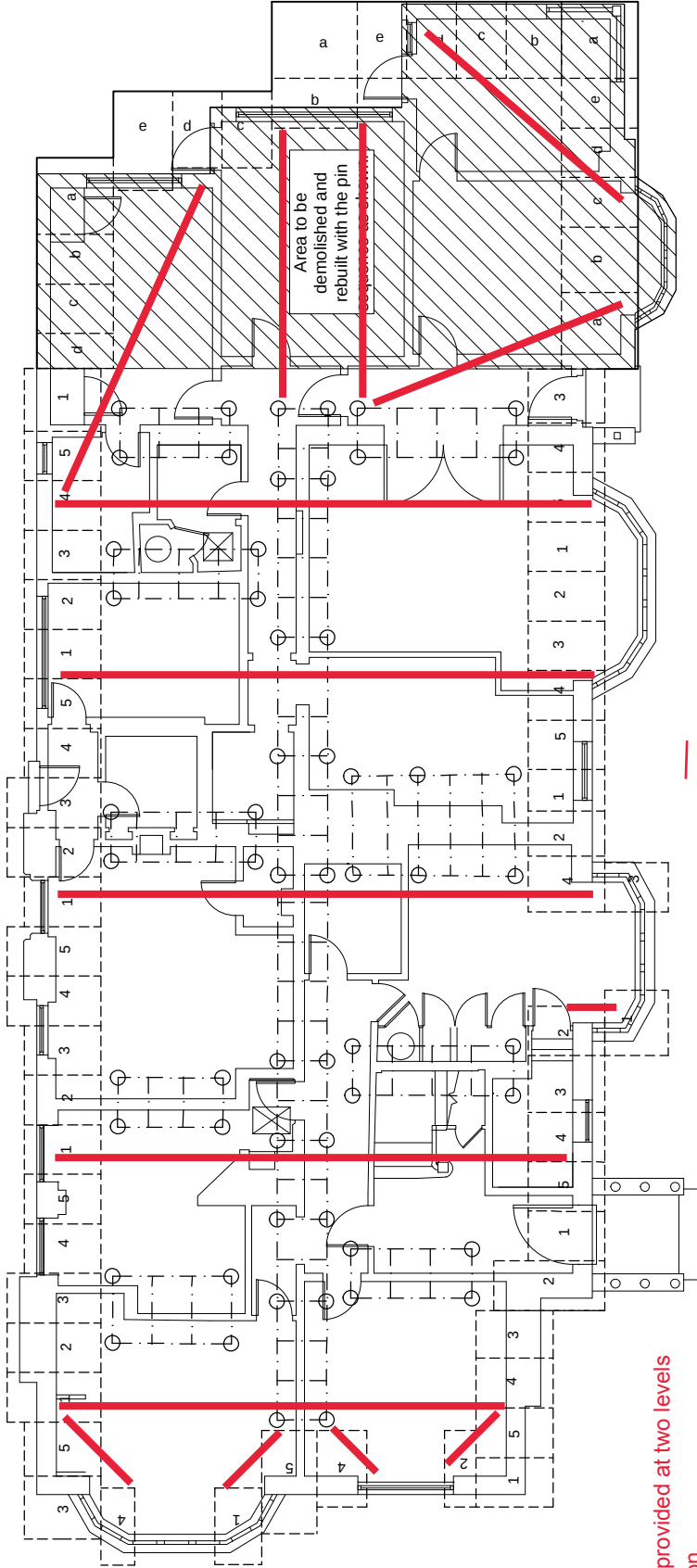
Plan
(Scale 1: 100)

FOR_PLANNING							
2	28/10/15	For planning	CM	SOH			
1	22/10/15	For planning	CM	SOH	ORIGINAL DRAWING SIZE A3		
REV	DATE	DESCRIPTION	BY	CHKD			
CLIENT AMEK_PROPERTY_INVESTMENT_LLP PROJECT 1_WADHAM_GARDENS LONDON_NW3_3DN TITLE GROUND_FLOOR					Quadrant Harmon Consulting Ltd.		
					Consulting Civil & Structural Engineers		
					Morley House		
					320 Regent Street		
					London W1B 3BD		
					Tel. 020 7637 2770		
					Fax. 020 7436 7823		
					JOB No.	DRAWING No.	REV.
					1550	03	2

Notes

- 1. This drawing is to be read in conjunction with all relevant Architects and Engineer's drawings and specifications.
 - 2. All workmanship and materials are to comply with Specification, Building Regulations, relevant British Standard and manufacturers recommendations.
 - 3. All dimensions are in mm unless noted. This drawing is not to be scaled.
- For General Notes Refer to drawing 1550-GN01 to GN03

Note: All underpins are reinforced concrete connected by bent out bars.



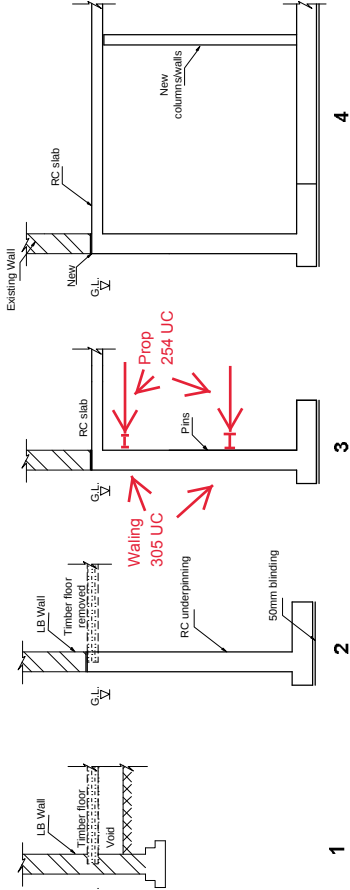
Propping provided at two levels see section

254 UC 46 Prop (Grade 355)

Walings 305UC97 shown on section for perimeter

Upper level of props and walings installed prior to general excavation.

Lower level of props installed after levels reduced



--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

1. The drawings are to be read in conjunction with relevant Architects and Engineer's drawings and specification.

2. All workmanship and materials are to comply with Specification, Building Regulations, relavent British Standard and manufacturers recommendations.

3. All dimensions are in mm unless noted. This drawings is not to be scaled.

4. All dimensions and setting out are to be checked on site and discrepancies reported to the Contract Administrator.

5. The structural information shown on this drawing is to be checked on site

6. Floors have been designed for the following characteristic super imposed loadings
Basement - Ground 1.5 kN/sq.m
Existing floor 1.5kN/sq.m
The Contractor is to ensure that floors are not overloaded during construction.

7. Foundations have been designed for an allowable ground bearing pressure of 190 kN/sq.m. If soft spots are encountered at formation level these are to be reported to the Structural Engineer. Soft spots at formation level are to be removed and backfilled with plain concrete.

8. All formation levels are to be inspected by the Building Control Inspector, allow for removal of last 150 of soil at the time of inspection. Provide the Structural Engineer with 24 hours notice when formations are ready for inspection.

9. Excavated material unsuitable for reuse as granular fill is to be removed from site to tip. Note Licensed Tip if site is contaminated.

10. Ensure that all excavations are kept free of standing water during construction.

11. Unless noted otherwise all foundations, poolside raft and walls, and ground floor slab to Caltite specifications.

Structural Concrete

12. Concrete Grades: -
Plain Concrete backfilling and blinding concrete
Foundations and Substructure concrete
Superstructure Concrete

Grade C25 min cement content 275kg/cu.m
Grade C40 min cement content 325kg/cu.m
Grade C40 min cement content 325kg/cu.m

13. Blinding concrete to bases, slabs and ground beams to be a minimum of 75mm thick.

Structural Steelwork

14. All structural steelwork shall be Grade S355 unless otherwise noted.

15. Paint treatment to steelwork to be in accordance with the Specification.
Note: where steel beams are embedded in external walls provide additional two coats of Bitumastic paint.

16. For fire protection to steelwork refer to the architect's drawings.

17. Bolts for connection of structural steel members are to be zinc plated grade 8.8. Provide a minimum of four bolts at all steel to steel connections.

18. The Contractor shall design all connections to the ultimate loads and moments shown on the drawings

19. The Contractor shall submit fabrication drawings to the Engineer for approval at least 14 days before commencing fabrication of the steelwork.

20. Stairs by specialist to be designed for a super load of 1.5kN/m².

21. Stainless steel and mild steel to be isolated to prevent Bi-metallic action.

Structural Timber

22. Structural timber is to be Grade C24 U.N.O.

23. All timber to timber connections are to be fixed with a minimum of 2No 4x100 nails.

24. All nails, screws joist hangers and timber connectors, are to be galvanised
- Holding down and restraint straps to be as manufactured by BAT Expamet
- Masonry
25. For masonry details refer to Architects drawings

26. For positions of horizontal and vertical brick/block movement joints refer to Architects drawings.

Compression Joints : Provide 15 joints filled with compressible filler () or equal approved

Joints are to be filled and sealed to Architect's details.

27. Cavity wall ties shall be stainless steel Ancon ref SD1 spaced at 450 centres vertically and 900 centre horizontally staggered.

28. Head restraints to non loadbearing walls shall be as manufactured by Ancon.

29. Stainless steel brick support angle system as manufactured by Ancon.

30. Blockwork to be
 - Medium dense 7.3 N/mm2, mortar 1:1:6Brickwork to be 20 N/sq.mm.

Underpinning

31. Before commencing underpinning carry out sufficient trial excavations to confirm the depths of the existing footings which are shown on the drawings.

32. Before commencing work prepare a method statement and submit Contractor Designed Temporary Works proposals for retaining the excavated faces and for the Underpinning.

33. Install as the excavation proceeds, where necessary, pre-cast poling boards to ensure no loss of ground.

34. Ensure faces of cast underpins are cleaned off and wetted prior to casting adjacent pin.

35. The inside face of pins are to be cast to ensure they are true to line and level and the face is suitable for the damp proof membrane and/or details specified by the architect.

		FOR_PLANNING					
2	28/10/15	For planning	CM	SOH			
1	22/10/15	For planning	CM	SOH			
REV	DATE	DESCRIPTION	BY	CHKD			
CLIENT AMEK_PROPERTY_INVESTMENT_LLP PROJECT 1_WADHAM_GARDENS LONDON_NW3_3DN TITLE GENERAL_NOTES						DATE OCTOBER_2015 PRODUCED BY CM	
						SCALE A1_1:50 A3_1:100 CHECKED SOH	
						CAD REF APPROVED	
						ORIGINAL DRAWING SIZE A3	
						Quadrant Harmon Consulting Ltd.	
						Consulting Civil & Structural Engineers	
						Morley House 320 Regent Street London W1B 3BD Tel. 020 7637 2770 Fax. 020 7436 7823	
						JOB No. 1550	DRAWING No. GN01
							REV. 2

Construction Requirements and Anticipated Sequence
General

1 Prior to commencement, during demolition and construction the Contractor shall carry out as appropriate sufficient dimensional survey's and further investigations to enable the design of the temporary works and to validate the findings of the exposures carried out pre-contract.

In this respect allowance should be made for further trial pits and holes through boundary walls.

The Contractor may phase this work to suit the proposed construction programme with due allowance made to incorporate changes to the permanent works.

2 The Contractor shall prepare method statements and temporary works proposal in advance of commencing the various elements of the work and shall allow 14 days for consideration of the proposals by the Architect and Structural Engineer as appropriate. This is to include the design and details for the contiguous piling which are also to form part of the permanent works.

These method statements are as follows:-

1 Retention Existing Building

Temporary works proposals for the retention of the existing building. The temporary works are to provide lateral restraint to the retained walls and dead shoring to some walls.

The Temporary works are to be designed to enable piling and construction of the basement.

2 Demolition.

Provide proposals for demolition and retention of structures above ground. Including locations of any plunge piles or other systems to be adopted to enable construction of the basement.

3 Underpinning

Provide method statements and methods for keeping excavations free of water. Also provide temporary propping proposals.

4 Excavation

Provide method statements and propping proposals.

3 Anticipated sequences are provided below to demonstrate the complexity of the works.

The Contractor is responsible for determining his own proposed sequences and methodology for executing the works whether or not they are at variance with the anticipated sequence and shall submit proposals to the Architect and Structural Engineer for comment.

Items identified within the Anticipated Sequences may be carried out where and when appropriate concurrently to suit the Contractors proposed phasing and method of carrying out the works. The Anticipated sequences below are likely to overlap and the Contractor is to identify in the Sequence of construction.

4 Reference to Temporary Works shall mean Contractor Designed Temporary works.

5 Temporary works to retain the existing building are to be designed to enable the installation of piles

Anticipated Sequence
(to be read in conjunction with the drawings and specification items may run concurrently as appropriate

1 Carry out a survey of the existing building and set up survey stations to monitor the building and adjoining owners walls (Prior to excavation)

2 Carry out demolition of extensions shown on the Architect's drawing.

3 Remove the ground floor.

4 Underpin to sequence shown.

5 Install plunge piles.

6 Install temporary propping.

7 Make connection to plunge piles

8 Pin walls over to ground floor slab

9 Remove pins supporting walls over.

10 Install horizontal props to underpinning.

11 Complete excavation.

12 Construct basement slab and columns.

13. Construct Ground floor slab

14 After concrete has attained 35 N/mm2 cube strength remove props and cut down plunge piles.

15 Complete construction.

Underpinning temporary propping

- The Main Contractor is responsible for the concept and design of all temporary works in laterally restraining the underpinning. The design is to limit settlement of adjoining walls to 5mm
- The arrangement temporary works must allow for the installation of the permanent works.
- The Main Contractor shall conceive the temporary works to suit the construction methodology and sequence of works.
- The temporary works design shall be submitted to the Party Wall Surveyors for their comments .
- The requirements of the party wall award is that the temporary works supporting the underpinning shall be rigid with zero deflection of where propped.
- Between props the max deflection is limited to 10mm.
- The retaining wall is to be designed for the lateral pressures from soil and water plus the surcharge loads along the perimeter and surcharge from the adjoining buildings.

Monitoring Walls & Buildings

- Surveying of Fixed Stations on Walls & Buildings shall be carried out as follows
 - ▲ For the first 3 months. Weekly
 - ▲ Until the Ground slab is constructed. Weekly
 - ▲ Following 6 months. Monthly
- The Monitoring Survey Trigger Levels for Monitoring carried out against the adjoining properties shall form three Levels. Green; Amber and Red Levels.
- GREEN LEVEL shall consist of the following trigger levels:
 - Limits on Total Lateral Movement of Monitoring Points up to 5mm
 - Limits on Total Vertical Movement of Monitoring Points up to 5mm
- AMBER LEVEL shall consist of the following trigger levels:
 - Limits on Total Lateral Movement of Monitoring Points +/- 5mm
 - Limits on Total Vertical Movement of Monitoring Points +/- 5mmShould these limits be reached the SE, CA and party wall surveyors shall be informed. Works shall not halt upon these levels being reached as this is to highlight potential further movement. Increase frequency of monitoring.
- RED LEVEL shall consist of the following Trigger levels:
 - Limits on Total Lateral Movement of Monitoring Points +/- 10mm
 - Limits on Total Vertical Movement of Monitoring Points +/- 10mmShould these limits be exceed works will stop until remedial measures have been agreed between the SE, CA, Contractor and the adjoining Party Wall Surveyor.

		FOR_PLANNING			
3	16/11/18	For planning	FD	SOH	
2	28/10/15	For planning	CM	SOH	
1	22/10/15	For planning	CM	SOH	
REV	DATE	DESCRIPTION	BY	CHKD	

CLIENT

AMEK_PROPERTY_INVESTMENT_LLP

PROJECT

1_WADHAM_GARDENS

LONDON_NW3_3DN

TITLE

CONSTRUCTION_REQUIREMENTS_&
ANTICIPATED_SEQUENCE

DATE OCTOBER_2015

PRODUCED BY FD

SCALE A1_1:50 A3_1:100

CHECKED SOH

CAD REF

APPROVED

ORIGINAL DRAWING SIZE A3

Quadrant Harmon Consulting Ltd.

Consulting Civil & Structural Engineers

39 Margaret Street,
London
W1G 0JQ
Tel. 020 7637 2770
Fax. 020 7436 7823

JOB No.

1550

DRAWING No.

GN02

REV.

3

Underpinning

Notes:

- 1

Concrete to be Grade C35 min cement content

325kg/cu.m.
- 2

Dry pack mortar 3:1 sand cement plus Conbex 100. Mix to have sufficient water to be mouldable by hand.
- 3

The underpinning at the base is to be the same width as the existing footings at base level. The inside face is to line through with the existing wall face above footing level. On completion of the underpinning trim away existing footings back to wall face.
- 4

Underpins are reinforced to short lengths and cast in. Bent bars are to be cast in for bending into the next pin.
- 5

Install as the excavation proceeds and as necessary pre-cast poling boards to ensure no loss of ground.
- 6

Ensure faces of cast underpins are cleaned off and wetted prior to casting adjacent pin.
- 7

It envisaged that the underpinning will be carried out in two stages, the first depth of underpinning will be cast to approximately half the total depth. This underpinning will subsequently be underpinned, offset lower pins by 300 to ensure staggered construction joints.
- 8

Before commencing underpinning carry out sufficient trial excavations to determine the depth of existing foundations.
- 9

Before commencing work prepare a method statement and submit Contractor Designed Temporary Works proposals for retaining the excavated faces and structures over.
- 10

The inside face of pins are to be cast to ensure they are true to line and level and the face is suitable for the damp proof membrane specified by the architect.

Sequence for Two Stage Dig Underpins:

(Pin Sequence similar except lettered)

Two stage underpinning will only be carried out when the depth exceeds 4 metres

Stage1

- 1

Excavate Pins 1 down to approx 2.0m below ground level and clean off underside of footing.
- 2

Cast Pins 1 to within 75mm of underside of brickwork over
- 3

After 3 day's dry pack ensuring the void is filled with mortar.
- 4

After 24 hours commence remaining Pins 2 repeating the above sequence before commencing remaining pins also to be sequenced as numbered.
- 5

Either before or as general excavation proceeds install Contractor Designed lateral supports.

Stage 2

- 1

Excavate for Pins 1 including foundation base (offset by 300) down to formation level and clean off underside of previously cast underpinning.
- 2

Cast Foundation base and Cast Pins 1 to within 75mm of underside of Pin over.
- 3

After 3 day's dry pack ensuring void is filled with mortar.
- 4

After 24 hours commence Pin 2 and remaining in their numbered sequence.
- 5

Either before or as general excavation proceeds install Contractor Designed lateral supports.
- 6

Trim off footing to inside face of wall, note this activity can be carried out following completion of Stage 1.

Note: Pins may be constructed in one stage if preferred.

		FOR_PLANNING			
2	28/10/15	For planning	CM	SOH	
1	22/10/15	For planning	CM	SOH	
REV	DATE	DESCRIPTION	BY	CHKD	
CLIENT					
AMEK_PROPERTY_INVESTMENT_LLP					
PROJECT					
1_WADHAM_GARDENS					
LONDON_NW3_3DN					
TITLE					
NOTES					
PIN_&_UNDERPINNING_SEQUENCE					