

67 Goldhurst Terrace London NW6 3HB

Method Statement – New Basement Construction

23rd February 2015

Introduction

- This method statement should be read in conjunction with the Structural Engineers London Building Design Ltd.
- Please also refer to the attached Typical underpinning works with sacrificial sheeting. This sketch details the construction method we are likely to adopt, based on the ground conditions at the property consisting of London clay.

The key stages are as follows:-

- A – Establish hoarding and conveyor
- B – Investigatory works
- C – Underpinning and retaining walls

Note: Temporary Support to Excavated Faces

- Ground conditions will be continuously assessed by the Site Foreman to determine the means and method of supporting any face of any excavation. All necessary shoring equipment will be available for use on site. The most likely method to be adopted will be the introduction of trench sheets supported by Acrow props. Please refer to the attached diagram which indicate the temporary works we will adopt during the underpinning works.

A. Establish access, hoarding and conveyor.

- The hoarding and conveyor will be positioned at the front of the property, with the boundary restrictions imposed by the local governing authority.
- Erect plywood hoarding with vertical standards anchored to the ground. The hoarding will be fully secure with a lockable door for access.
- Install conveyor at basement level. Ensure that the conveyor is adequately supported and secured to the hoarding using a temporary scaffold structure.
- Install temporary electrical and water supplies.

B. Investigatory works

- We have a soil investigation report which shows a soil profile of made ground to 1.3m deep and stiff London clay below that to our formation level.
- On commencement of construction London Building design will determine the foundation type, width and depth. Any discrepancies from the design allowances will be reported to the structural engineer in order that the detailed design can be modified.

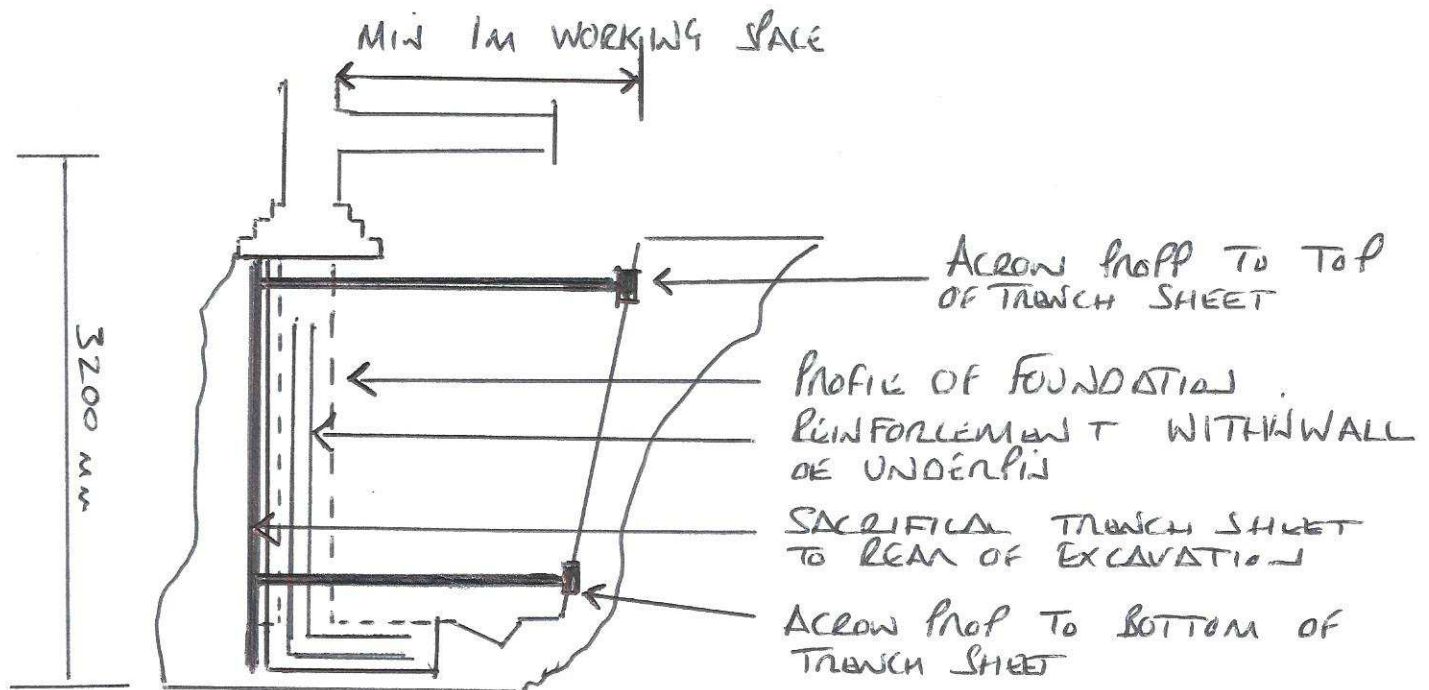
C. Reinforced concrete underpinning and retaining walls.

- Sacrificial trench sheets are installed at the back of the excavation as said excavation progresses. The method adopted to prevent localized collapse of the soil is to install these progressively one at a time. The trench sheets are held in place with acrows until such time as the full underpinning excavation is sheeted. (see attached drawing)
- Once the toe section is cast, the lower level propping to the trench sheets can be removed, prior to casting the stem section. This method ensures that at all times the excavation is controlled, and indeed the integrity of the surrounding soil and structure above is maintained, to enable permanent works construction.
- The access trench is first excavated directly underneath the wall to be underpinned. The width of any base is individually assessed on site with due regard to the type and condition of the foundation and structural geometry above. The maximum width of any underpinning base will be 1,200mm.
- Break off projecting brick or concrete footing back to internal face of brick wall. Excavate using hand and compressed air tools removing spoil until the design depth is reached and removed to muck away conveyor.
- Soils where unstable in the temporary condition will be shored. Shoring system design will be undertaken by Monavon Construction if required.
- Once the excavation is completed to the design depth and length. The stratum at the proposed founding depth is confirmed as being appropriate by our engineers or the building control inspector.
- The design steel reinforcement will be fixed in the toe section of the underpinning base. This will be checked by the building control inspector prior to concreting.
- Following construction of the toe, the design steel reinforcement will be fixed in the stem (or wall) section. This will be checked by the building control inspector prior to concreting.

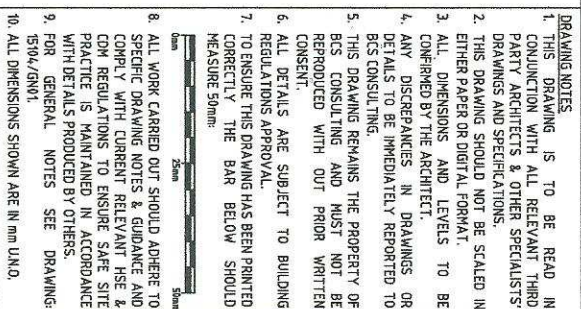
- A single sided shutter is then erected and concrete poured to form the underpinning base up to a maximum of 100mm below the underside of the existing foundation.
 - After 24 hours the temporary wall shutters are removed. The void between the top of the underpin base and underside of the existing foundation will then be dry packed with a mixture of sharp sand and cement (Ratio 3:1 sharp sand : cement)
 - A further 24 hours is allowed before adjacent sections can be excavated.
 - Construction joints if required are formed using a suitable shear key or joggle joint. In exceptional circumstances dowel bars are incorporated. Typically these are post drilled and resin fixed with specification as per structural design.
- A record will be kept of the sequence of construction, which will be in strict accordance with recognized industry procedures. The as-built records will be updated as necessary and issued to involved parties during the works.

TYPICAL UNDERPINNING WORKS WITH SACRIFICIAL TRENCH SHEETS

Taken view in conjunction with Method Statement
at 67 Goldhurst Terrace



- TRENCH SHEETS INSTALLED PROGRESSIVELY TO EXCAVATION AS EXCAVATION PROCEEDS
- TRENCH SHEETS SUPPORTED BY ACROW PROPS
- ONCE THE ~~SHEET~~ (BASE) IS CAST THE BOTTOM SECTION OF THE TRENCH SHEETS ARE ENCASED IN CONCRETE AND THE BOTTOM SUPPORT ACROW PROP CAN BE REMOVED.
- ACROW PROP MOVED TO MID HEIGHT
- WALL REINFORCEMENT
- FORMWORK TO MID HEIGHT
- CONCRETE
- REPEAT PROCESS FOR TOP SECTION
- DITCHING



10. ALL DIMENSIONS SHOWN ARE IN mm U.N.O.

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24.4.15	A	ROUTING INFORMATION UNDERPINNING 16.45	MS



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PROJECT

67 GOLDBURST TERRACE

NW6

DRAWING TITLE

UNDERPINNING LAYOUT

SCALE	1:100 @ A3
DRAWN	--
CHECKED	
DATE	

SYMBOL KEY

- LATEST REVISION MARKER

UNDERPINNING GENERAL NOTES

1. THIS DRAWING SHOULD NOT BE SCALED
2. ALL DIMENSIONS AND LEVELS TO BE CONFIRMED BY THE ARCHITECT
3. A SOIL INVESTIGATION IS TO BE CARRIED OUT INCLUDING TRIAL PITS AND BOREHOLES PRIOR TO CONFIRMATION OF ENGINEER'S DETAILS
4. NO CONCRETE IS TO BE POURED UNTIL EXCAVATION BOTTOMS HAVE BEEN CHECKED AND APPROVED BY THE LOCAL AUTHORITY
5. THE UNDERSIDE OF EXISTING FOUNDATIONS ARE TO BE THOROUGHLY CLEANED AND ALL LOOSE PARTICLES REMOVED TO RECEIVE DRY PACK.
6. CONCRETE PINS TO BE CONSTRUCTED IN THE ORDER AS SHOWN ON THE DRAWING.
7. ONLY 20% OF WALL IS TO BE OPENED UP AT ANY ONE TIME.
8. DRY PACK MIX (1:3) SULPHATE RESISTING CEMENT: SHARP SAND TO DAMP EARTH CONSISTENCY TO BE THOROUGHLY RAMPED INTO POSITION.
9. ALLOW 48 HOURS FOR DRY PACK TO MATURE BEFORE EXCAVATING ADJOINING AREAS.
10. ALL SOFT MATERIAL IS TO BE REMOVED TO ENSURE A FIRM SOUND FOUNDING MATERIAL TO BE AGREED ON SITE.
11. UNDERPINNING WORKS TO BE IN ACCORDANCE WITH EUROCODE 7, PART 1, BS EN 1997-1
12. THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF ALL EXCAVATION AND THE BUILDING DURING THE COURSE OF THE WORKS AND THEREFORE SHALL HAVE PLANKING AND STUFTING ON SITE AT ALL TIMES TO COMPLY WITH CURRENT HEALTH AND SAFETY REGULATIONS.
13. DRAINS ENCOUNTERED IN EXCAVATIONS AND ACCESS HOLES ARE TO BE WRAPPED IN MINIMUM 50mm THICKNESS POLYSTYRENE PRIOR TO PLACING CONCRETE IN PIN AND BACK FILLING ACCESS HOLES WITH LEAN MIX CONCRETE WHERE THIS IS REQUIRED
14. FOR GENERAL NOTES SEE SPECIFICATION 15/04/06 000 EXCAVATED VERTICAL FACES TO BE SUPPORTED USING 10mm SHUTTERING PLYWOODS SECURELY RAMPED UP OPPOSITE FACE
15. NEW HIGH LEVEL UNDERPINNING TO BE HORIZONTALLY PROPPED AT MID HEIGHT, CORNERS TO BE PROPPED WITH DIAGONALS ACROSS ADJACENT PINS. ALL PROPPING AND TEMPORARY WORKS TO CONTRACTOR'S DESIGN AND METHOD STATEMENT
16. CONTRACTOR IS TO ENSURE THAT ADEQUATE PROPPING AND SACRIFICIAL SHEETING ARE KEPT ON SITE IN CASE LOOSE SOIL IS ENCOUNTERED
17. ALL UNDERPINNING TO BE FORGED WITH GRADE R235 CONCRETE, WITH SULPHATE RESISTING CEMENT (SR2) TO BS EN 197-1

UNDERPINNING METHOD STATEMENT

1. DIVE OVERALL LENGTH OF WALL INTO MAX IM LENGTH AS SHOWN ON DRAWING, WORK SEQUENCE TO BE SUCH THAT THE WALL IS ABSOLUTELY SUPPORTED AT ALL TIMES
2. EXCAVATE PINS IN ORDER SHOWN
3. CONSTRUCT BASEMENT SLAB SECTION + KICKER
4. CONSTRUCT WALL SECTION LEAVE 24" HOURS (600 mm REINFORCEMENT TO BE DROVEN TO THE NEXT SECTION)
5. AT MID-HEIGHT PROP PIN HORIZONTALLY AGAINST INTERNAL DAMPING OR OPPOSITE FACE
6. DRY PACK BETWEEN WALL & FOUNDATION LEAVE FOR MINIMUM OF 48 HOURS BEFORE EXCAVATION OF ANY ADJACENT PINS
7. EXCAVATE NEXT PIN IN ORDER SHOWN
8. REPEAT 2
9. REPEAT 3

REINFORCING NOTES

FOR REINFORCEMENT REFER TO BAR SCHEDULE RC01 CONCRETE TO BE GRADE C35 WITH SRC. COVER TO ALL REINFORCEMENT, UNO:

TOP 35mm
SIDES 35mm
BOTTOM 65mm
BACK FACE 50mm
MINIMUM LAPS:
 ϕ X 50 EG H16 X 50 = 800mm
LAPS TO BE STAGGERED.

LAPS TO BE STAGGERED.