

Sub-Tech Contracts Limited

Civil Engineering, Groundwork & Tunnelling

Crown Wharf Estate, Bidder Street, Canning Town, London, E16 4ST

		Method Statement			
TITLE:		Underpinning & Plant Room Construction			
CONTRACT:		Oval Road			
SITE:		5 Oval Road, Camden, London, NW1 7EA			
CLIENT:		Goldsmith (London) Ltd Progress House Powder Mill Lane Dartford Kent DA1 1NT			
SUB CONTRACTOR:		Sub-Tech Contracts Ltd Crown Wharf Estate Bidder Street London E16 4ST subtechcontracts@aol.com 0208 591 0560			
Contract:	As above	Version:	1	Date:	12/12/2018
Originator Name:	John Cannon	Approval Name:			
Signature:	<i>John Cannon</i>	Signature:			
Risk Assessment:	Attached	Date			

INTRODUCTION

The scope of works includes two areas of work:

- Underpinning the existing stairwell
- Excavating part of the existing driveway and constructing the plant room

all as set out on the construction drawings and within our quotation 11th December 2018.

All Sub-Tech Ltd operatives have a duty to understand and comply with the information

and procedures within this document.

1. Procedure

- Welfare facilities to be supplied by Goldsmith.
- Fencing to be set around perimeter of works area.
- CAT scan working area for services.
- Permit to dig to be completed before work commences.
- All services must be marked out prior to works taking place.
- Area for works/pins to be marked out and agreed by Goldsmith group.
- Condition of the wall is to be monitored at all times before and during works.
- Excavate to level proposed on the construction drawings.
- Where possible and free from services an excavator will excavate. If not possible a hand dig excavation will be used.
- Shoring to be installed as required, depending on ground conditions.
- Spoil must be kept back from the edge of the excavation at all times.
- On completion of each pin, any remaining excavation to be backfilled and compacted in layers as earthworks supports are withdrawn.
- Surplus arisings to be carted off site by SCL.

Method for Installing Underpins

- Sub-Tech employees briefed on full procedure and risks prior to works start.
- This operation will be carried out by qualified miners using hand tools, assisted by a 360° excavator.
- Set out works and sequence for each underpin.
- Monitor the condition of the existing stairs wall prior to excavation. If condition is not good STOP WORKS. Do not continue.
- Scan area with CAT scan prior to works
- Permit to dig must be in place prior to works start.
- Excavate pins to the required depth.
- Shoring to be installed where required, determined by the prevailing ground conditions.
- Edge protection is required around all excavations and spoil kept back from edge at all times as per requirements.
- Shutters to be installed and propped using arcos or heavy timber props (Headings using timber frames if necessary, ie. headboards and side boards) prior to concreting.
- Concrete to be placed using shoots.
- Shutters to be struck out and underpin to be dry packed.
- Pin to be backfilled and compacted in layers and left solid and level.
- All surplus materials to be stockpiled locally and removed off site.

Additional Information

Skilled construction miners will excavate the working space zone and underpinning pit using hand tools. Timber supports or props may be used to support the excavation.

Earthwork support will be installed down to the required level. Earthwork support will comprise either medium gauge trench sheets or 225mm x 38mm poling boards with 200mm by 75mm structural grade timber props and waling's where the earthwork support can be recovered. Material will be brought to ground level using either a hoist or a clamshell grab fitted to an excavator.

Where earthwork support is to be left in and ground conditions dictate steel trench sheets or concrete poling boards with gaps in between will be used. The gaps will allow underpin concrete to penetrate and eliminate any voids (that may form under adjacent structures) during concrete placement. Care must be taken that timber side waling's are not permanently fixed to the rear earthwork support to ensure ease of removal when the adjacent pins are excavated. Timbers are to be fixed to provide a key to the adjacent underpin.

Construction of the Plant Room

- Sub-Tech employees briefed on full procedure and risks prior to works start.
- This operation will be carried out by qualified miners with the use of a 360° excavator.
- Set out works and in line with the construction drawings
- Scan area with CAT scan prior to works
- Permit to dig must be in place prior to works start.
- Excavate existing driveway and place materials in stockpile to be carted away by grab wagon
- Edge protection is required around all excavations and spoil kept back from edge at all times as per requirements.
- Trench sheets are to be installed as the excavation progresses downwards to retain each exposed face
- The trench sheets will be propped using heavy timber frames prior to concreting.
- Prepare sub-grade ensuring it is trimmed to level
- Place sub-base and compact
- Pour a screed on to the prepared sub-base
- Fix ironwork, all as the approved construction drawings
- Fix shuttering for floors and kicker
- Pour concrete for base, plant room base, ensuring no voids remain.
- Fix steelwork for plantroom walls
- Erect formwork for the walls, ensuring it is appropriately propped using acrow props or heavy duty timber.
- Pour concrete into shuttering, ensuring all voids are removed using a poker to remove air pockets.
- Shutters to be struck out once the concrete has cured
- Temporary earthworks supports to be removed as the walls are poured.
- Once all of the walls are complete, set formwork for the plant room roof.
- Fix reinforced steel as required

- Pour concrete onto the roof ensuring all voids are removed using a poker to remove air pockets.
- Strip the shuttering
- Surplus materials to be stockpiled locally and removed off site.
- Waterproofing by others.
- Leave site tidy.

2. Access and Egress

- All access to and from the site will be controlled by warning signs; notices etc. will be prominently displayed in and around the working area. All signs and notices to be erected by the MC.
- Physical barriers will be used to provide an exclusion zone with handrails fixed in position by others at extreme changes in levels.
- Excavations will be accessed via properly secured ladders. Ladders will be of sound construction, of adequate length, safe for use and properly secured at the top. (Additional ladder provided to allow alternative access/egress to shaft.

3. Lighting

- Festoon lighting to be used in heading. Lighting shall be 110-volt AC, with each light caged to prevent breakage.

4. Labour, Plant & Equipment

Labour: (all operatives will be AP2 trained which includes First Aid and Emergency training).

- 1 No Foreman/miner.
- 1 No miners
- 1 No Banks man/Top man.
- 1 No Excavator Driver

Plant:

- 1 x 6t Excavator or similar.
- 1 x 1m drop chain
- Kettle skip
- Compressor (standard)
- Hand held breakers – LV20s and FL22s
- Small tools
- Chains (all certification will be supplied before work commences)
- Generator – small 5KVA
- Festoon lighting – see “lighting” above.
- Bogey and rails
- 1 x 2” Pump.

Safety Box: 2 x gas detectors
1 x standard first aid kit

A schedule of the plant and equipment used on site along with the appropriate statutory test/examination certification will be present on site.

5. Materials

Concrete
 Plywood
 Timber
 Timber settings
 Acrow props
 Rebar
 Type 1 Crushed Concrete

6. Risks and Controls

The main hazards associated with our work activities have been identified and listed in the following table. The actions that are required to control these hazards are detailed within this Method Statement and control methods identified on the attached risk assessment.

HAZARD IDENTIFICATION AND RISK ASSESSMENT

Task	Hazard/Risk	Risk control measures / mitigation	Persons affected
Excavation of Contaminated Ground	Risk of irritants	<ul style="list-style-type: none"> All operatives to wear daily disposable overalls. Contamination unit to be used to enter and exit working area. Constant ground atmospheric monitoring. 	Operatives Site Personnel
Lifting operations (equipment and accessories)	Falling materials and loads	<ul style="list-style-type: none"> Loler Report (or client form) weekly check. Weekly check on accessories; 6 monthly calibration checks. Signaller in attendance. No standing under suspended loads. checklist in place. 	Site Operatives
Hand tools used for breaking out / soil excavation	Vibration White Finger Hearing Damage	<ul style="list-style-type: none"> Use low vibration tools and gloves where possible – see table below for details. Provide hearing protection. 	Site Operatives
Working around open excavation	Falls into excavations by operatives/general public	<ul style="list-style-type: none"> Provide guard rail / ensure trench sheets project min 1 m above ground level. Check barriers periodically. Provide warning notices. 	Site Operatives Site Personnel
Ground collapse	Entrapment/crushing injuries	<ul style="list-style-type: none"> Regular inspection of supported excavations. Provide safe means of access/egress – tied access 	Site Operatives

Task	Hazard/Risk	Risk control measures / mitigation	Persons affected
		<p><i>ladders.</i></p> <ul style="list-style-type: none"> • <i>Provide trench support in accordance</i> • <i>Approved temporary works designs (heading / shaft excavation).</i> 	
Confined space working	Poor air quality	<ul style="list-style-type: none"> • <i>Continuous air quality monitoring during the works; additional battery pack on standby</i> • <i>Shaft / heading pre-entry checks</i> • <i>Top man / watchman in attendance at all times</i> • <i>Emergency evacuation / rescue procedure (see section 7.2)</i> 	Site Operatives
Use of pneumatic equipment	Failure of hoses / soft tissue & eye injury from high pressure air	<ul style="list-style-type: none"> • <i>Trained operator, regular inspection good working practice, whip checks fitted</i> • <i>Air diffuser fitted if hose used to supply additional fresh air</i> 	Site Operatives
Use of Cutting discs/abrasive wheels	<p>Burn injuries, cuts, eye damage</p> <p>Inhalation of dusts & RCS</p>	<ul style="list-style-type: none"> • <i>Trained operatives to mount, check discs and use equipment.</i> • <i>Correct storage of discs / wheels.</i> • <i>Correct ppe, face & dust mask, goggles, gloves.</i> • <i>Wet cut methods only</i> 	Plant Operator
Use of Circular Saw	<p>Cuts, eye injuries from flying particles</p> <p>Electric shock</p>	<ul style="list-style-type: none"> • <i>Ensure eye protection worn during cutting</i> • <i>Check blade & guard condition before use</i> • <i>Support & secure timbers being cut to prevent inadvertent movement</i> • <i>Check clothing to prevent entanglement</i> 	Plant Operator
Materials Movements	<p>Back injuries, muscle strains</p> <p>Struck by plant, loose materials</p>	<ul style="list-style-type: none"> • <i>Manual handling tool box talks use powered lifting equipment where possible. Good housekeeping to prevent trip hazards.</i> • <i>Operatives to be in place of refuge during loading / wear face protection to minimise the risk of injury from flying concrete / spoil.</i> 	Site Personnel
Backfilling	Crushing injuries to	<ul style="list-style-type: none"> • <i>Wear foot protection; trained</i> 	Site Operatives

Task	Hazard/Risk	Risk control measures / mitigation	Persons affected
of excavations	feet, vibration	<i>operative.</i>	
Electrical distribution systems (lighting)	Electrical shock Burn injuries from exposed bulbs	<ul style="list-style-type: none"> <i>PAT labelling to confirm equipment regularly checked / serviced; guarded bulbs</i> <i>110v equipment only</i> <i>Visual check prior to use</i> <i>Suspend cables out of standing water / mud</i> 	<i>Site Operatives</i>

PLANT LABOUR AND MATERIALS

Plant:

Item Description	Noise ¹ (dBA)	Vibration (mm/s ²)	Comments
Excavator + breaker	83 / 88	N/A	Loler Report weekly / 12-month certificate
Road breaker	86	3.9 – 4.8	Weekly Inspection
Compressor	65	N/A	Weekly Inspection
Wacker Rammer	84	4.9 – 6.3	Weekly Inspection
Plate Compactor	82	5.3 – 8.4	Weekly Inspection
Cut off saw (petrol)	80	14.0	Weekly Inspection
CAT & Gennie	N/A	N/A	Current calibration certificate, user pre-test (battery function)
Clay spade	83	18.2	Weekly Inspection
Circular Saw 110V	75	3.5	PAT cert / Weekly check
Safety harness	N/A	N/A	Loler Report weekly / 6 month Thorough Insp Cert.
Gas monitor	N/A	N/A	Daily pre-use function check / Calibration Cert.
SCBA Sets	N/A	N/A	Calibration Cert.
Davit arm	N/A	N/A	Calibration Cert. 6 month
Safety winch	N/A	N/A	Thorough Insp Cert.

Labour:

Type	Training Requirement	PPE
Excavator Operator	CPCS Certificate	Hard hat, high viz., boots, ear defenders, eye protection (dust)
Operative	SSA or Safety Passport, Abrasive wheels, CS1	Hard hat, high viz., boots, ear defenders, flame retardant overalls, eye protection (dust)

¹ Noise & Vibration levels of supplied equipment may need to be checked on site against supplier data. **Noise levels indicated are standardised to the expected level at 10 metres from the respective plant; for noise levels at 1 metre figures are approximately 20dBA higher.** Colour coding: **Green** = below first action level or 8hr daily limit value / **Orange** = above first action level or above daily exposure limit after 4 hours usage (trigger time) / **Red** = above second action level or daily exposure limit after 2 hours or less usage (trigger time).

Type	Training Requirement	PPE
Ganger man	NRSWA Operative, SSA or Passport, Service Avoidance, CS3	Hard hat, high viz., boots, ear defenders, flame retardant overalls, eye protection (dust)

Materials:

Material	CoSHH	Manual Handling
Excavated Spoil	Possible (if contaminated)	Yes
Aggregates	Yes	Possible
Ready mixed concrete	Yes	Possible
Trench Supports	No	Possible
Timber	Possible (if preservative treatment still wet / active)	Yes

7. Monitoring / Supervision

Our site supervisor will ensure that:

- All work is being carried out in a safe manner;
- In strict adherence to our method statement with a banksman in attendance at all times during excavation. (Bank man AP2 trained and also slinger/signal man AP2 trained).

8. Emergencies

- Procedures for action in the case of emergencies will be in accordance with site rules.
- Our operatives will be given instructions regarding fire exits and meeting point's etc. at the site induction.
- A mobile phone will be available to contact the emergency services should the need arise.
- Our operatives will be given instructions regarding Accident Reporting at the site induction.
- Should an emergency occur within the heading the site agent will be notified immediately and the emergency services ie: Fire brigade contacted immediately. Please see attached Sub/Tech Contracts Limited "Rescue Procedure" document.

9. Personal Protective Equipment

- Adequate supplies of ear defenders, eye protection, dust masks and other safety equipment will be held in store on site and retained by the operative on their person.
- Both site operatives and visitors will be required to wear Hi Vis jackets protective helmets and safety footwear at all times. Additional protective equipment will be worn when required in accordance with the relevant site rules.

10. Power

- Generator to provide power as necessary.

11. Working Platforms: N/A.

12. Training

- Verbal instructions and training will be given as necessary to operatives to ensure good housekeeping standards are maintained on site. Stability and stacking instructions will be given as needed to site operatives by management.
- All personnel carrying out the work will be experienced and competent in their duties and will attend an induction talk on the requirements of the relevant Method Statement prior to the works commencing.
- The Contractor's Site Supervisor who will have attended client's site-specific induction will give the talk.
- All drivers of excavators and other plant will have relevant Certificates and show competence in the operation of same.
- Operatives will have been trained to the approved standard and be competent to carry out the task required and be of sufficient numbers to work safely. Copies of AP2 certificates to be provided to client.

13. Housekeeping / Welfare

- Good personal hygiene, provision of hand cleaning materials and avoidance of skin contact with contaminated materials is required.

14. The Environment

- Trays or bunds will be provided where necessary beneath fuel tanks and compressors to prevent ground contamination.
- Spill kit will be maintained on site in the event of an oil spill.
- A fuel bowser will not be kept on site.

15. Site Protection/ Security

- By main contractor

16. Atmosphere monitoring

- Not Applicable

17. Emergency Procedures and Rescue Plan

- In an emergency / dangerous situation i.e. alarm signal, personnel should evacuate the area immediately.
- In event of heavy rainfall, the site supervisor will monitor the works and situation, and where the risk of flooding from heavy rainfall, will remove persons from the excavation.

- If there is a risk to persons in the confined space, such as gas or ingress of substance, then any casualty must be left, with his head out of water, while the other confined space operative evacuates into the shaft and returns wearing rescue Caba sets.
- If there is an immediate and serious risk, the supervisor in charge must make a decision based on local circumstances, whether there is greater risks from leaving the casualty in the confined space, or from moving him.

18. Nearest Accident & Emergency Department

University College Hospital
235 Euston Road
London
NW1 2BU

Telephone: 0203 456 7890

Note: Should there be any deviation from this Method statement then work must stop until a revised Safe System of Work can be agreed

Signed: ***Tom Radford***

Date: 13/12/2018

