ROGER BULLIVANT

CONSTRUCTION DESIGN MANAGEMENT

SFA PILING

NORTH WEST OFFICE

FOR

Aqueduct Crossing Whalley

Lovell Homes

B/M/20/0071

22nd Sept 2021

COVID 19 DOCUMENT COVERSHEET

Contract Number	BM20/0071
Contract Name	Whalley Aqueduct Works
Client	Lovell

To avoid multiple handling/signatures the personnel listed below are signing to say that they have been briefed, read, and understood the contents of the following documents: (these can be amended to suit the specific project)

1. RAMS including COVID 19 specific (GEN-RA Covid 19 Current Rev).
2. Underground Services Permit to Dig. (must be signed by the client and RBL person carrying out the CAT scan)
3. Site Specific COVID 19 Control Checklist.

Person Giving The Brief

Name	Signature	Position	Date

Site Personnel

Name	Signature	Position	Date

****THIS DOCUMENT MUST BE INCLUDED AND RETAINED AS A COMPLETE PACK****

ROGER BULLIVANT

APPENDIX SUMMARY:

1. COMPANY POLICY STATEMENT
2. METHOD STATEMENTS
3. RISK ASSESSMENTS
4. COSHH DOCUMENTS
5. INSURANCE CERTIFICATES
6. RIG SPECIFICATIONS

ROGER BULLIVANT

APPENDIX 1

COMPANY POLICY STATEMENT

www.roger-bullivant.co.uk

Environmental and Sustainability Policy Statement

Roger Bullivant is committed to achieving and demonstrating sound environmental performance through the identification and control of the impacts of our activities on the environment and to ensure our activities, services and products comply with all legal requirements, those of our customers and other regulatory bodies.

The Company has an Integrated SHEQ Management System certified to BS EN ISO 14001:2015 which is consistent with our Health, Safety and Quality policies.

Our operations will be conducted with due consideration being given to sustainability and the limited use of natural resources.

Senior Management is therefore committed to:

- Driving forward and providing resources to reduce our carbon footprint by 40% for 2030:
- Set out a Company strategic plan, with senior level leadership and communicate all significant environmental issues to the workforce;
- Identifying the significant environmental, product lifecycles, aspects and impacts from current and relevant past activities and services where we have a direct control or can be expected to have an influence;
- Minimising and where reasonably practicable, eliminate any adverse impact on the environment, including pollution prevention arising from the activities of our business;
- Minimising the use of energy, resources consumed and waste produced while undertaking our business activities in a safe and professional manner;
- Comply with all applicable legal regulations and implement best practice;
- Encompassing sustainable development, with a commitment to waste minimisation, reuse, recycling, and best practical environmental options to prevent pollution of the environment;
- Informing and training our staff in understanding and fulfilling their environmental responsibilities and those of the company;
- Establishing and measuring environmental performance against objectives and/or targets to ensure continual improvement;
- Encourage proactive initiatives that protect the environment from harm and degradation, such as sustainable resource use and climate change performance.

Our commitment extends to all our activities, which have the potential to adversely affect the environment.

We aim to ensure that the principles of sustainable development are operated throughout all RBL operations.

This Policy is regularly reviewed in order to ensure continuing suitability and subject to a formal review annually.

Signed: [redacted]

Next Review Date: 03.01.2022

C Wren, Managing Director – 04.01.2021

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Quality Policy Statement

Roger Bullivant is committed to providing its customers with quality products and services which meet the requirements of the customer, statutory and regulatory bodies.

The Company has an Integrated SHEQ Management System certified to BS EN ISO 9001:2015 which is consistent with our Health, Safety and Environmental policies.

In addition, we are firmly committed to the continual improvement of our management systems and products and services to benefit all involved.

Senior Management is therefore committed to:

- Establishing and reviewing quality objectives at appropriate levels and measure quality performance against the set objectives and/or targets to ensure continual improvement;
- Ensuring that all employees possess appropriate skills and competencies in order to fully meet these objectives;
- Communicate the policy to those working for and on behalf of the Company;
- Providing all necessary resources to both maintain the SHEQ Management System and to continually improve its effectiveness throughout the organisation;
- Maximising returns to the Company by eliminating avoidable losses and reworks;
- Ensuring this Policy is communicated and understood by all within the company and other interested parties;

This Policy is regularly reviewed in order to ensure continuing suitability and subject to a formal review annually.

[redacted]

Signed:
C Wren, Managing Director – 01.12.2020

Next Review Date: 03.01.2022

www.roger-bullivant.co.uk

Health, Safety and Welfare Policy Statement

Roger Bullivant Limited recognise and accept the sound moral, legal and financial reasons for ensuring the health and safety of our employees, subcontractors and other persons who may be directly affected by our work activities.

The Company has an Integrated SHEQ Management System certified to EN ISO 45001:2018 which is consistent with our Environmental and Quality policies.

We will fully discharge all our statutory obligations and strive to be the benchmark of health & safety good practice across all sectors in which the business operates and compliance with all legal & other requirements. This policy underpins our commitment to the prevention of injury and ill health and our continual improvement in health & safety performance and management, this is aligned with the Roger Bullivant behavioural safety programme.

To support this, we:

- Integrate health & safety management into the business decision making, including development and delivery of professional services, purchasing and supplier management processes;
- Engage with employees, subcontractors, suppliers and customers to understand both their requirements of us and vice versa, and comply with the professional audit requirements of our clients;
- Identify hazards, assess risks and allocate appropriate resources to implement effective control measures to eliminate and reduce any risk using hierarchal controls;
- Consult, communicate and participate of our health and safety policy with all employees and interested parties.
- Set, monitor, manage and communicate our Health & Safety performance against clear goals and objectives and comply with the requirements of our trade bodies FPS & ASUC;
- Implement other associated policies with respect to Health, Safety and Welfare for example Drugs & Alcohol and Safe Driving.

All employees are reminded of their duties under the Health and Safety at Work Act 1974 which is to:

- Ensure that all reasonable care is taken with regard to the health, safety and welfare of themselves and others;
- Make themselves aware of, and to co-operate in the implementation of our policy, processes, procedures, statutory documents and industry codes of practice and that refusal to work on the grounds of health and safety will not result in disciplinary action.
- Take all reasonable and proper steps to ensure a safe working environment.

The provision of appropriate training and information supported by monitoring, reporting and identification of improvement actions, are the cornerstones of this Policy. This Policy is formulated from the Company Core Values and will be periodically reviewed for continuing suitability.

Signed:

C Wren, Managing Director – 04.01.2021

ROGER BULLIVANT

APPENDIX 2

MINI-PILING METHOD STATEMENTS

I CERTIFY THAT I HAVE READ, UNDERSTOOD AND WILL COMPLY WITH THIS METHOD STATEMENT

PRINT NAME:_____

SIGNED: _____

DATE: _____

PRINT NAME:_____

SIGNED: _____

DATE: _____

PRINT NAME:_____

SIGNED: _____

DATE: _____

PRINT NAME:_____

SIGNED: _____

DATE: _____

THIS PAGE IS TO BE SIGNED BY ALL OPERATIVES AND RETURNED TO THE HEALTH AND SAFETY DEPARTMENT VIA THE AREA OFFICE

Contents

1.0 General Safety Rules and Responsibilities

1.1. Only properly training and certified personnel must be used to operate company equipment or sling loads (including transport drivers).

1.2. No lifting appliance or item of lifting gear must be used to lift a load in excess of its tested S.W.L.

1.3. Never use a winch rope to lower augers into a borehole or to extract augers from a borehole. Only use the winch to hoist augers for positioning ready for connection to the drill head. Always use the drill head for lowering into any borehole and for extracting augers from any borehole.

1.4. No equipment must be manually handled in such a way as to place any employee at risk of injury. If this cannot be avoided, additional labour **MUST** be requested, it is always preferable to use mechanical assistance to handle heavy components.

1.5. As with all other aspects of Roger Bullivant contract sites, the normal 100% head protection policy will apply.

1.6. It is the responsibility of the site supervisors/foremen to ensure that the procedures in this document are followed, and that all operatives are fully conversant with the procedures contained in it.

1.7. The contents of this document apply to all Roger Bullivant Ltd controlled sites, in respect of direct labour, self-employed and sub-contract companies engaged to perform the functions detailed (This includes transport drivers).

1.8. Specific selection of the equipment to be used and other detailed Health and Safety Site Specific issues must be identified by the Contract Engineer at the planning stage of the contract and agreed with the site foreman/supervisor and principle contractor prior to the commencement of works.

1.9. All Roger Bullivant Ltd Auger & Drill rigs are fitted with interlocked mesh guards preventing entanglement during operation of Augers & Drill rods (see associated Risk Assessment(s)).

1.10. The working platform should comply with the requirement of the FPS piling certificate.

1.11. All services must be clearly defined and a signed Permit to Dig and Overhead Avoidance Services Permit must be available on site.

2.0 General Safety

2.1. Wire Ropes

2.1.1. Personnel should be kept at a safe distance from wire ropes which are being used for hoisting and lowering; operatives must never straddle the ropes or reach across them as serious injury can result from a whipping wire rope or from a breakage. The rig operator must be alert at all times when hoisting, lowering or pulling.

2.2. Stability

2.2.1. Extra care should be taken when operating the smaller rigs to ensure that the rig remains stable when operating in rotational mode

2.2.2. When using Post Drill Rigs mounted on a base plate, the operator must ensure that the base plate is secured in position by way of driving securing pins around its perimeter to minimise movement.

2.3. Operator Co-ordination

2.3.1. It is imperative that all members of the operating crew appreciate that when changing Augers, one operator will be in close proximity to the auger flights, whilst the other will be operating the controls. The Rig Operator must have a clear line of sight during any lifting operations. It is therefore vital that each crew member is absolutely clear of the others intentions and actions. Failure to communicate correctly may result in serious personal injury. The Rig Operator must not activate rotation or other controls when it is possible that projected spanners/components could strike anyone or when persons could be entangled by the auger or trapped/struck by ascending/descending augers or any movement of the catch plate. The rotational speed is limited to 15rpm when the guards are open to facilitate Auger replacement.

3.0 Rig Starting, Running and Stopping

3.1. Observation of the following will assist with the safe operation of the auger rig and should be taken into consideration before starting the operation.

3.1.1. The operator must hold a valid certificate and be competent in the use of all equipment to be used.

3.1.2. Always wear personal protective equipment supplied by the company, as laid down in the company induction programme and site rules – no loose/flapping clothing.

3.1.3. Avoid spilling flammable fuels and oils, always use funnels when topping up engines with fuels.

3.1.4. Report any faults to the rig or equipment without delay and if necessary for reasons of safety, isolate the rig from use.

3.1.5. Ensure that daily maintenance schedules are carried out and recorded according to company practice.

3.1.6. Carry out the correct **Start-up, run and shutdown procedures**

DO NOT IN ANY CIRCUMSTANCES: -

3.1.7. Carry out any maintenance when the drill rig or equipment is operating.

3.1.8. Operate the rig or equipment outside the scope of its designed intended use.

3.1.9. Tamper with or adjust hydraulic or compressed air safety or relief valves.

3.1.10. Open any flushing medium valves until hoses are securely attached and correctly restrained.

3.1.11. Allow any unauthorised person to operate the rig or equipment.

3.1.12. Tamper with or isolate interlock guards, cut-offs, emergency stops or other safety equipment.

3.1.13. Carry out any unauthorised repairs.

IF IN DOUBT ABOUT ANY MATTER: ASK YOUR SUPERVISOR OR MANAGER FOR HELP BEFORE RISKING POSSIBLE ACCIDENTS TO YOURSELF AND/OR OTHER MEMBERS OF THE CREW

4.0 Emergency Stop Procedures

4.1. Emergency Stop Devices

4.1.1. These protective devices are mandatory and are fitted in order that actual or impending dangerous situation is averted quickly without creating any additional hazard.

4.1.2. They are situated in the danger zone and will stop all rotation, feed and hoisting movements as quickly as possible in order to prevent the dangerous situation developing further. The danger zone is the zone within and around the drill rig in which a person is exposed to risk of injury. For an auger rig it is the area in which a person can be reached by operational

movement of the drill rig, its working devices, its auxiliary equipment or swinging or falling equipment.

4.2. Emergency Stop Activation

4.2.1. If a hazardous situation occurs, an emergency stop button must be activated by the nearest person and the drill rig functions stopped.

4.2.2. Assess whether injury to a person has been caused.

4.2.3. If this is the case summon immediate medical assistance in accordance with company procedures.

4.2.4. Report incident to the company via the SHEQ Alert System (Lotus Notes) so that the necessary safety investigation can take place.

4.2.5. Do not re-start the drilling operation until authorised by your supervisor.

4.2.6. If an injury to a person has taken place, ensure that it is correctly recorded on GEN-SFD 1404 Accident Injury Report Form and reported via the SHEQ Alert System (Lotus Notes).

4.2.7. If objects become wrapped around augers great care must be exercised in cutting or removing the material wrapped round the auger

4.2.8. If bolt cutters, hacksaws or burning torches have to be used to cut out entrapped objects into short sections, the lead driller must ensure that the second man and any tools are well clear before engaging rotation. Rotation of the auger must be slow and controlled to prevent loosened pieces flying off. **NB:** Burning torches should only be used by trained and competent personnel.

4.2.9. Ensure that any loose sections of the entrapped material are cleared well away before commencing any other work. Safe and secure footing is essential at all times.

4.3. Manual Handling

4.3.1. As augers are heavy they should be supplied for use in the minimum practical length for handling safely. Manual handling regulations must be observed at all times. Mechanical handling aids should be used whenever practicable to reduce manual handling to a minimum.

4.3.2. Because of the bulk and weight of augers great care must be taken to ensure that they are safely secured when being transported to and from site and that they are safely stored or racked when in use on site.

4.4. Sampling & Spoil Removal

4.4.1. If hand samples are required to be taken from the auger flights they must be taken with the auger stationery.

4.4.2. If it becomes necessary to remove spoil/arisings from the area around the borehole then rotation of the auger string must be stopped whilst this operation is being carried out. The working area should be kept clean and tidy underfoot so as not to create a slip/trip hazard or to allow obstacles to be hidden by mud.

5.0 Auger Operation

5.1. Equipment Required

5.1.1. Rig and catch plate/fork tool
5.1.2. Drive adaptor
5.1.3. Power pack and hydraulic hoses
5.1.4. Hand hammer and suitable punch
5.1.5. Fork-spanner
5.1.6. Spring clips (Auger Pins)
5.1.7. Guide bush
5.1.8. Cutter heads (as required)

5.2. General

5.2.1. Select the correct drive adaptor and secure.

5.2.2. Select the correct size guide bush.

5.2.3. Before the cutter head and first metre of auger are attached, it is vital to establish that the cutter head is in good condition and the correct size (i.e. at least ½ inch larger in diameter than the auger flight). This is to ensure that it is the cutter head that cuts the hole and not the auger flight

5.3. Operation

5.3.1. Having attached the cutter head and the auger flight section; close and secure the guards, introduce the auger gently by way of operating the control levers and continue to feed the auger into the ground, ensuring that the spoil is being brought to the surface. ** Ok in cohesive materials, could be a problem in wet no cohesive soils **

5.3.2. If it is not happening, it can be assisted by continuing to rotate the auger and operating the traverse control lever to raise/lower the flight within the hole, thereby clearing the spoil completely.

5.3.3. If it is felt that the progress of the operation is slow, it may be necessary to test the free running rotation by way of lifting the cutter head from the base of the hole and ensuring that the available power is being transmitted to the cutter head and not simply being used to turn

the auger in the hole. (If when cutter is raised from the bottom, the rig is still under load, the flight may not be central and, therefore, a large proportion of the available power may be taken up by the auger flight fouling the sides of the hole).

5.3.4. When the top of the flight reaches the top of the guide bush, place the fork tool to support the auger catch-plate, it will be necessary to add an additional auger flight as follows; open the guards and Remove drive pin, raise drill head and introduce additional section.

5.3.5. It is important that the spring loaded pins are fitted so as to ensure the spring end of the pin is trailing in the direction of rotation. (Failure to install the pin in this manner will result in it being removed by the spoil during rig operation), remove the fork tool catch-plate and close the guards. Where there are 2 pin connections ensure 2 pins are used.

5.3.6. As drilling progresses, add further flights as previously described until the desired depth is reached.

5.4. Auger/Flight Removal (small diameter 200-300mm augers)

5.4.1. Before removal of the augers check the area where it is to be landed, so as to ensure there are no obstructions or objects which could deflect the auger or damage equipment.

5.4.2. Raise auger to expose the spring pin at the lower end of the first flight.

5.4.3. Open the guards, then placing the catch-plate fork tool across the top of the guide bush (thereby preventing the remainder of the flight falling to the bottom of the hole), it is now possible to rest the catch-plate/fork tool across the top of the guide bush by lowering, using the traverse control lever.

5.4.4. **IT IS IMPERATIVE THAT THE BASE PLATE NOT ONLY SUPPORTS THE WEIGHT OF THE REMAINING FLIGHTS BUT ALSO PREVENTS THEM FROM ROTATING AND THEREBY PROHIBITING LOSS OF THE FLIGHT INTO THE HOLE IN THIS MANNER.**

5.4.5. Before any augers are removed, the second man and any other personnel present shall stand at least **twice the length** of the auger away from the point where it is pushed towards the ground and out of the direction of fall, and watching carefully, being prepared to move if necessary.

5.4.6. Alternatively, an excavator may be used to lift the augers clear, as described in 5.5.

5.4.7. Drill head is then traversed down and reconnected to the remaining flight section(s).

5.4.8. This process is repeated until complete removal is achieved.

5.5. Auger Flight Removal

5.5.1. Large diameter/heavy augers (Over 300mm)

5.5.1.1. The same methods as previously described are employed to separate the augers up until:

5.5.1.2. Ensuring that the drive pin is still connected within the auger and drive adaptor. Knockout the spring clip at the joint between the auger to be removed and the remaining augers.

5.5.1.3. An excavator equipped with RBL certified chains and RBL certified lifting clamp is then connected to the auger.

5.5.1.4. The drive pins are then removed, and the head lifted from the flight and side shifted.

5.5.1.5. The excavator then lifts and removes the auger from the string.

5.5.1.6. An excavator should be used to remove the auger when sufficient working space allows. The excavator operator will only activate his machine when he is clearly instructed to do so by the RBL Rig Operator.

5.5.1.7. Under no circumstances should any operative place a limb or body part between the drive adaptor and auger or within the bottom of the auger at ANYTIME.

5.5.1.8. Where space impedes the use of an excavator, a site specific method statement and risk assessment should be written

5.6. Auger/Flight Removal (using Winches / Side shift head)

5.6.1. The following basic principles shall apply:

5.6.2. As with all other rigs, at no time shall any operative place any limb or body part between an auger and **ANY** part of the rig **OR ANOTHER AUGER.** When augers are being winched forward the rig operatives must stand at least 2m behind the incoming auger.

5.6.3. No operatives will attempt to connect or separate augers without the proper equipment. 2 operatives are always needed to lift insert (if they weigh more than 25kgs), retract or for any other reason manually handle catch plates/fork tools.

5.6.4. To connect augers a dolly or lifting shackle **MUST** be used, that correctly fits the augers. Dolly – Hollow Stem, Shackle – Sabre.

5.6.5. The augers are introduced by connecting the top of the auger to the dolly or shackle, which in turn is connected to the winch. The winch is then employed to raise the auger, the side shift of the head (where fitted) is used to enable the auger to rise up without becoming trapped within any part of the rig.

5.6.6. Once completely suspended, the head is manoeuvred to place the auger above the auger to which it is to be connected. Any manual contact that is required to guide the auger into connection is done by handling the auger at its sides **ONLY.**

5.6.7. Connection is completed by following previously described methods.

5.6.8. Where augers are employed that 2 operatives cannot comfortably lift, a winch **MUST** be used. Any rigs that are employed to use such augers, which do not have a winch, **MUST** be modified (Winch fitted).

5.7. **Aborted pile position and exposed pile excavations**

5.7.1. If a pile position is aborted, the piling rig will be backed away from the pile position and the open bore protected with a pile cover.

5.7.2. The client and/or groundworker is to be immediately notified that the pile position requires suitably backfilling to meet the requirements of the working platform design.

5.7.3. Under no circumstances are RBL workers to leave site with open or exposed piles excavations.

5.7.4. The RBL Foreman is to ensure that these are backfilled before workers leave.

ROGER BULLIVANT					
	SFA METHOD STATEMENT				
Title	**Whalley Bridge Works**				
Client	**Lovell Homes**				
Date	**22nd Sept 2021**	**BM20/0071**	**EB-MS-0071-01**	**Rev. No. 1**	**Page 1 of 2**

Site Location

Site is located off the A671 Whalley

Post Code: BB7 9YD

Site Location Fig 1.

Scope of Works

This method statement is to advise on the safe method of work for the installation of 42 number 400o/d SFA piles to a maximum depth of 11m. Testing works will include integrity testing with 100% at Cast and 100% at Cut Off level. Works are planned to commence Oct 2021
The site will be split into 2 separate piling platforms on each side of the UU water mains with a nominated crossing point in place, only authorised plant will be permitted to access the crossing point.
Vibration monitoring will be undertaken whilst all piling operations are ongoing

Client:

Lovell Homes.
Site Manager: Peter Wixted: [redacted]

Prepared By: Edward Brindle (Contracts Supervisor) [redacted] Dated:22.09.2021

Contractors Management Team

Contracts Manager: Oliver Dawson: 07976 785738
Contracts Supervisor: Eddie Brindle: 07970 269387

RBL Site Personnel/Operatives: 3 number:

1. To hold relevant in date CPCS/CSCS.
2. To conform with specified PPE requirements.
3. Piling foreman to hold SSSTS
4. All operatives to have 5-point PPE. (Hi- visibility clothing, Hard Hat, Safety Boots, appropriate gloves for the task and Eye Protection)

Proposed Plant. (Copies of all plant certs to be issued to Lovell Homes)

1. 1 x rig: Comacchio 6, rig (spec attached)
2. 4WD Forklift Truck
3. 500 Litre Diesel Bunded Bowser
4. 1 x 1005D trailer mounted concrete pump
5. 1 x Compressor (min 130 cfm)
6. 1 x power wash.

Pre-Start

Prior to commencement on site the following documents will be completed by the contracts supervisor and incorporated into the site file.

1. Utility and Services Permit
2. Pre-Start Inspection
3. Working Platform Certificate.
4. All ops to attend Lovell site induction

Operations

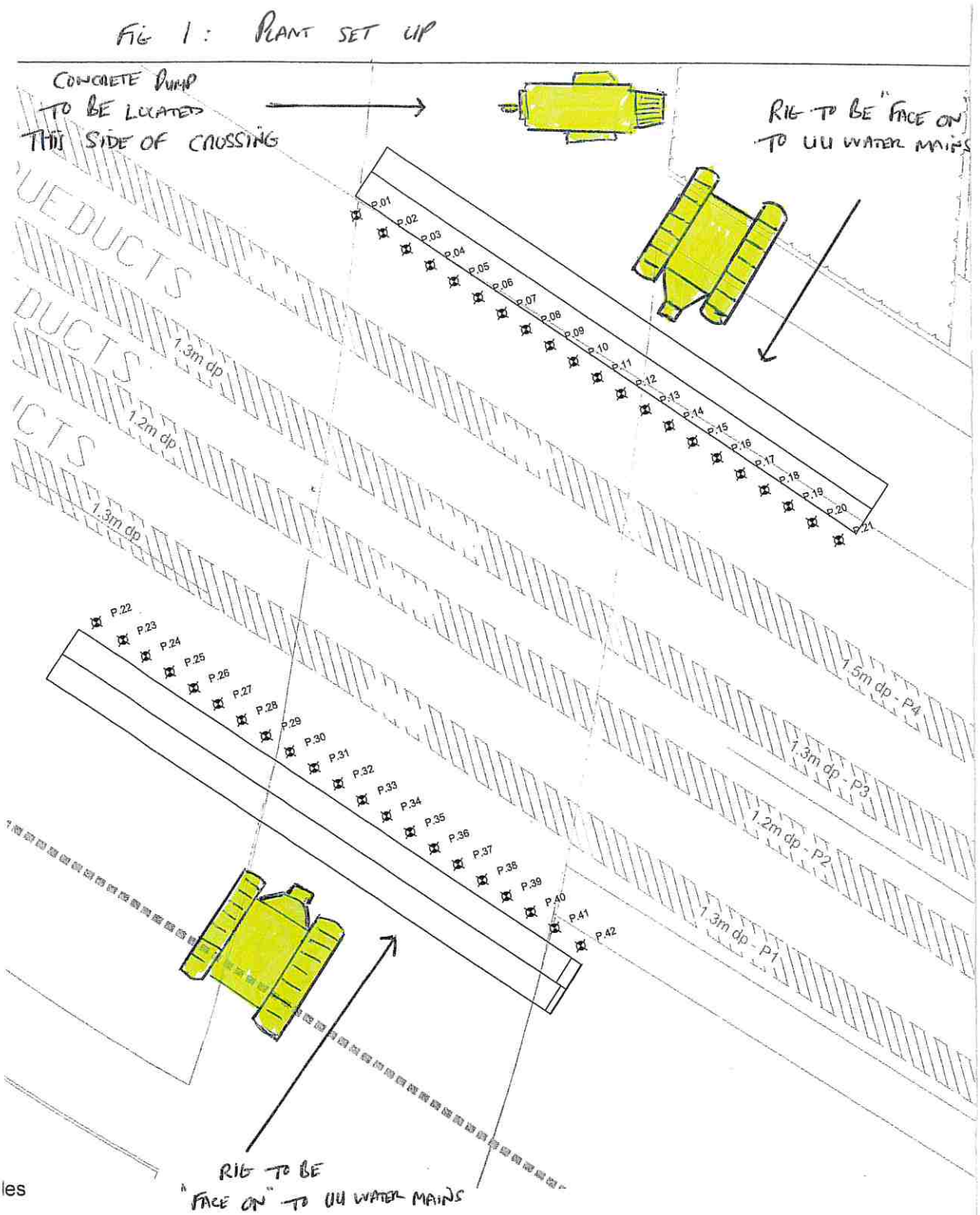
All plant to be unloaded in nominated area segregated from other workers as agreed with Lovell's.
Only authorised plant to be allowed access across the aqueduct crossing point.
The concrete pump to be located on the Lovell compound side of the aqueduct eliminating the need for concrete trucks crossing over the UU water mains.
When piling the rig is to be positioned "face on" to the crossing point to reduce any loads to the UU water mains (sketch attached)

Welfare Facilities

Welfare facilities are to be provided by Lovell Homes. These are currently sited within the site compound and meet all company and HSE requirements

Prepared By: Edward Brindle (Contracts Supervisor) [redacted] Dated:22.09,2021

FIG 1: PLANT SET UP



60 70 80 90 100

FINAL DRAWING SCALE

Elevation A On Whalley Aqueduct Crossing

Scale 1:50

FIG 2: SITE PLAN

SITE PLAN

AREA OF PILING WORKS

1.0 Purpose and Scope

1.1 This method statement defines the company procedure for the installation of Hollow Stem SFA piles.

2.0 References

2.1	PGI-PMS 1317	Preparation of the Pile Head for Static Load Testing (Wet Cast Piles)
2.2	GEN-SMS 1004	The Use of Auger Lifting Clamps

3.0 Health and Safety Controls

3.1 GEN-RA 1008 – Bored Piling Risk Assessment
GEN-RA 1009 – UMP Risk Assessment.

3.2 The safety method statement for operation of auger rigs (Ref: **UMP-SMS-1301**) must be on site and have been read and understood by all Operatives before any works commence.

3.3 Before any piles can commence an Underground Services Permit to Dig / Avoidance of Overhead Services Permit to Work must be completed by the Client / Main Contractor.

3.4 The piling foreman will be responsible to ensure that no unauthorised personnel are within the piling exclusion zone.

3.5 The piling foreman is to ensure that personnel are using the required PPE.

4.0 Environmental Controls

4.1 Operational working hours are stated on the Prestart Site Inspection Form.

4.2 Fuel and Oil spill must be cleared as soon as possible. All spills must be reported.

4.3 COSHH Assessments must be available for all hazardous items used

4.4 All waste must be disposed of via the correct means.

4.5 Vehicle engines must be turned off when not in use

5.0 Method and/or Process

5.1 Method

5.1.1 Prior to establishment of piling plant, ensure that there are no overhead obstructions and that the working piling platform surface and access are suitable for the safe operations of our piling plant. If for any reason any of the above is not suitable please contact the area office.

5.1.2 With great care the piling rig will be established at the pile position(s), set out by others.

5.1.3 Set up auger over the pile position. Ensure that it is stable.

5.1.4 The piling rig shall be precisely set up over the pile position (normally set out by others) to within 25mm of the theoretical pile position to ensure the piles are constructed within the specified plan tolerance of 75mm (or project requirements).

5.1.5 Lift the lead flight into the guide on the rig and insert into the drilling head Check verticality of auger flight in 2 places (front to back/side to side) to ensure piles are constructed within the specified verticality tolerance of 1 in 75, then commence augering. Once the lead flight has been screwed into the ground it is disconnected, the next segmental auger flight is added and coupled together using a pin connector.

5.1.6 For all auger lifting refer to method statement GEN-SMS 1004 attached, although all augers are lifted on to the rig an excavator with competent operator must be made available for the removal of all augers.

5.1.7 Continue augering, adding subsequent flights, as in 5.1.5. above, until the required depth is reached. Spoil should be removed as a continuous process.

5.1.8 Stop drilling once required depth is achieved, if the design depth cannot be achieved (refusal), the foreman is to notify the contracts engineer/contracts supervisor or discipline manager and await further instructions.

5.1.9 Were possible a line of sight needs to be maintained between the concrete pump operator and the rig operator/banksman if this is not possible 2 way radios need to be used.

5.1.10 Concreting or Grouting of the pile will take place using a static concrete / grout pump. The pump will be situated in a predetermined spot for easy access for the concrete lorry to discharge the load. The pump will be manned and set up by a trained pump operator once everything is in place and primed pumping can commence.

5.1.11 Where a holding drum / agitator is used in conjunction with the concrete pumping operation, the agitator should be operated in line with the operator's manual supplied.

5.1.12 When required depth is achieved, lift the auger approximately 10mm and commence pumping concrete. When the auger bung has been blown re-drill back down the 100mm whilst continuing to pump concrete.

5.1.13 When a sufficient head of concrete / grout pressure is achieved the flights are withdrawn slowly in sections. As each flight is extracted remove the arising's from the flight, insert support plate at base of flight to prevent auger string from falling back and disconnect the flight. This process should be repeated until the auger string has been completely removed from the bore.

NB Ensure that manual handling training is adhered to, and that the flights and casings are safely stacked for reuse. The augers and casings are to be lifted and stacked using a plate lifting clamp.

5.1.14 As the flights are withdrawn and removed from the rig, on reconnection Concrete /grout pressure must be resumed and augers redrilled back down 100 -200mm and concrete / Grout pressure maintained at all times.

5.1.15 When concreting/grouting is completed; back the rig off and allow access for the attendant excavator to clear off the head of the pile removing any excess concrete/spoil arisings.

5.1.16 The required reinforcement cage is inserted into the pile by attendance excavator or fork truck all necessary lift plans to be in place by site. Check with the site engineer that the cut off level of the pile is correct in relation with the pile platform level.

5.1.17 All protruding vertical reinforcement bars to protected until such times as piles are to be incorporated into the beams/slab/pile caps.

5.1.18 Main Contractor to remove all arisings and excess Concrete / grout as necessary.

5.1.19 All Daily piling records will be submitted to the client's representative for record purposes.

5.2 **Formation of the Pile Head**

5.2.1 The pile head shall be formed in accordance with reference 2.1.

5.3 **Aborted pile position and exposed pile excavations**

5.3.1 If a pile position is aborted, the piling rig will be backed away from the pile position and the open bore protected with a pile cover.

5.3.2 The client and/or groundworker is to be immediately notified that the pile position requires suitably backfilling to meet the requirements of the working platform design.

5.3.3 Under no circumstances are RBL workers to leave site with open or exposed piles excavations.

5.3.4 The RBL Foreman is to ensure that these are backfilled before workers leave.

1.0 Health and Safety Controls

1.1 DO NOT use this equipment until you have read and fully understand these instructions.

1.2 This equipment has been designed for use by a competent person who has undergone training and who has read these instructions.

1.3 ALWAYS wear, protective clothing, gloves and footwear as a minimum.

1.4 DO NOT operate this equipment if you feel ill, tired or are under the influence of alcohol or drugs.

1.5 This equipment MUST NOT be used to carry or lift personnel.

1.6 Always bear in mind your safety and the safety of others while using this equipment.

2.0 Information, Instruction and Training

2.1 Managers and Supervisors have a responsibility to ensure that RBL or Contract Hire personnel are trained in the use of a lifting clamp.

2.2 Managers and Supervisors must ensure that the lifting clamp has a current Annual Thorough Test and Examination Certificate and that the certificate is with the equipment and available for inspection if requested.

2.3 Plate Lifting Clamps are subject to LOLER 1998 and PUWER 1998.

2.4 When the lifting clamp is NOT permanently attached to the machine, it **must** be treated as a lifting accessory and be thoroughly tested and examined every **6 months.**

3.0 Correct Use of the Lifting Clamps

3.1 Check the flight is clean where the clamp is to be attached.

3.2 Position the clamp on the edge of the flight, fully turning the locking lever to lock the jaw open.

3.3 Place the clamp onto the flight to the full depth of the mouth.

3.4 Fix jaw on flight, turn lever to lock position.

3.5 Check position of lifting clamp as weight is applied.

3.6 Always use a 1.5 camlock lifting clamp on all augers. If the jaw is not wide enough the lager 3.0 t lifting clamp must be used. Make sure you attach the clamp with the full depth of the mouth on the flight.

3.7 If the depth of the flight ids insufficient to accept the full depth of the mouth, then an alternate lifting method must be used.

4.0 Safety Check List

Check	Daily	Weekly	3 Months
Welds for cracks	✔	✔	✔
Distortion of the shell plates	✔	✔	✔
Obvious signs of damage	-	✔	✔
Clean teeth, remove all grit, dirt, mud and concrete.	-	✔	✔
Lubricate all moving parts with soft grease	-	✔	✔
Fasteners for integrity and tightness	-	✔	✔
Distortion in jaw bolt, internal links and springs	-	-	✔
Jaw and pad wear	-	-	✔
Locking cam handle for wear	-	-	✔
Spring tension	-	-	✔

1.0 Purpose and Scope

1.1 Employers have specific responsibilities under the Health and Safety at Work Act 1974 and The Management of Health and Safety at Work Regulations 1999 to ensure the health and safety of:

- Their employees
- Anyone else affected by their work activities

1.2 Everybody in the transport chain should make themselves aware of the requirements set out in paragraph 2.0 – References.

2.0 References

2.1 Department for Transport Code of Practice
2.2 Workplace Transport Safety
2.3 Relevant Risk Assessments

3.0 Terms and Definitions

3.1 Risk assessment is a legal requirement that helps you identify issues and take reasonably practicable steps to control the risks.

4.0 Specific Equipment Requirements for this Task.

1.	Gloves	7.	
2	High Vis	8.	
3.	Safety Boots	9.	
4.	Safety Helmet	10.	
5.		11.	
6.		12.	

5.0 Waste Disposal Arrangements

1.	Nil
2.	
3.	
4.	

6.0 Types of Hazards Relevant to this Task

6.1 Manual handling injuries for those involved in manually unloading vehicles.

6.2 Workplace transport issues for all personnel at site especially when reversing.

6.3 Crush and trapping injuries for those working in the manoeuvring.

6.4 Over turning for operators of mobile plant unloading the vehicle.

6.5 Falls from bed of the goods vehicle.

6.6 Driving moving vehicle before loading or unloading complete.

7.0 System of Works

7.1 Ensure the area is clear of other traffic, pedestrians and people not involved in loading or unloading.

7.2 Ensure clear of overhead electric cables so there is no chance of touching them, or electricity jumping to 'earth' through machinery, loads or people.

7.3 To maintain stability, trailers should be parked on firm level ground.

7.4 Ensure the trailer has its brakes applied and all stabilisers are used. The vehicle should be as stable as possible.

7.5 Always check the floor or deck of the loading area before loading to make sure it is safe. Look out for debris, broken boarding etc.

7.6 Loads should be spread as evenly as possible, during both loading and unloading. Uneven loads make the vehicle or trailer unstable.

7.7 Loads should be secured, or arranged so that they do not slide around.

7.8 Safety equipment must be considered. Mechanical equipment and heavy moving loads are dangerous.

7.9 Vehicle must never be overloaded. Overloaded vehicles can become unstable, difficult to steer or be less able to brake.

7.10 Loading should allow for safe unloading.

7.11 Some goods are difficult to secure during transport. Hauliers and recipients will need to exchange information about loads in advance so that they agree safe loading procedures.

7.12 Checks must be made before unloading to make sure the loads have not shifted during transit, and are not likely to move or fall when restrains are removed.

8.0 Additional Information

8.1 Loading and unloading should be carried out by trained staff that are aware of the risks involved. Drivers should also be aware of the additional risk of the load, or part of the load moving when the vehicle is being driven. This applies to all vehicles and all types of load. The driver is ultimately responsible for the load carried on their vehicle, whether or not they were involved in the securing of the load.

8.2 Particular attention should be paid to the dangers of high loads that might have to pass under bridges or other structures across roads..

9.0 Monitoring and Review

9.1 Periodic review of the process will take place through the standard company document control and review process.

1.0 Purpose and Scope

1.1 The purpose of this Method Statement is to define the safe working procedure for operating a Vibrock V9000 Seismograph.

2.0 Health and Safety Controls

2.1 The operator must be familiar with, or in the possession of the V9000's operator manual.

2.2 The operator must set up and position the Seismograph away from moving plant and machinery wherever possible.

3.0 Environmental Controls

3.1 Operations must only take place within the working hours stated on the prestart site inspect form.

3.2 All waste must be disposed of designated skips and licenced waste carriers.

4.0 Definitions

4.1 **Seismograph** –The instrument that measures motion of the ground (vibration).

4.2 **Transducer** – The attachment that is used to detect vibration.

4.3 **Data** – The vibrations recorded by the Seismograph.

4.4 **Event** – The period of time the Seismograph is recording data. From pressing "Piling mode" to "power down" is a single event.

4.5 **Modem** – The device that allows the Seismograph to connect to the internet.

5.0 Power source

5.1 The unit is supplied with a mains power adaptor, this adaptor is to be used wherever possible to reduce the use of disposable batteries, it is also used to charge the modem.

5.2 The V9000 unit, when not powered by the mains adaptor runs of 4 x D Cell batteries, please refer to the operator manual with regards to changing the batteries.

5.3 Note - When the modem is powered by a rechargeable battery, once this battery is flat the modem will automatically switch to run off the D Cell batteries, this will significantly reduce the life of these batteries.

6.0 Process

6.1 Setting up the Seismograph

6.1.1 Determine the location where the unit is to be situated, if monitoring is requested by the Client/Client Representative, the location shall be agreed with the Client Representative.

6.1.2 Connect the transducer and position as per operator manual, see page 5 of operator manual for transducer mounting.

6.1.3 Once positioned, turn on the Seismograph and check the battery life is sufficient enough to carry out the operations time scale (see page 9 of the operator's manual for battery power info). Also check that the time and date are correct. If the time and date are not correct, it can be changed manually by accessing the "Set Logger" function from the main menu, for details on how to do this please refer to the operator's manual, page 8.

6.1.4 If required, the position of the Seismograph should be recorded in relation to works being monitored and/or it specific location on site, please seek confirmation from R.B.L. Site Supervisor/Contracts Manager before monitoring commences.

6.2 Starting and monitoring an event

6.2.1 Once the Seismograph is set up, from the main menu select "Piling mode". The Seismograph will then automatically start recording data.

6.2.2 Once the Seismograph is recording, extra care is to be taken around the transducer, this is to ensure that no false readings are recorded, false readings may happen by;

- Kicking the transducer.
- Excessive movement by foot around the transducer.
- Objects accidently hitting or falling around the transducer.
- Plant movement around the transducer.

If a false reading is observed the Seismograph should be powered down, restarted and the time and date should be noted and reported to the person collating the data.

6.2.3 The light on the screen will turn off after 25 secs, the screen will go into "sleep mode" after two and a half minutes. Once the screen is in "sleep mode" the Seismograph is still recording data, a flashing light on the silver button indicates that monitoring is active, pressing any of the function buttons will reactivate the screen.

6.2.4 The event data can be viewed in different ways whilst monitoring is ongoing;

- **Data** – This is the default screen showing the monitoring details and the mm/s readings.
- **Hour Data** – This shows the max readings recorded for the last hour and for the total event.
- **Bar Graph** – This shows a flowing bar chart of vibration readings, the parallel axis indicating the max readings for the data on the screen.

6.3 **Turning off/powering down the unit**

6.3.1 Once the operations being monitored have ceased, the Seismograph should be turned off. All data recorded will be stored automatically.

6.3.2 To power down, press and hold the "Shift" button, then press "Exit" this will return you to the main menu.

6.3.3 From the main menu, press and hold the "Shift" button, then press "Turn Off", this will display the modem disable option screen.

6.3.4 Press "Yes" then on the following screen press "Modem Disable" and wait for "Modem OFF" to be displayed, then press "Exit", this will return you again to the main menu.

6.3.5 From the main menu, press and hold the "Shift" button, then press "Turn Off", the Seismograph will then run through a short powering down sequence, once the screen goes blank the unit has turned off.

6.3.6 Once the unit has powered down, the transducer should be disconnected, both the Seismograph and transducer should then be stored away in a secure location.

7.0 Viewing data/memory

7.1 Viewing the stored data on the Seismograph unit

7.1.1 NO MEMORY SHALL BE DELETED UNLESS AUTHERISED BY R.B.L. SITE SUPERVISOR/CONTRACTS MANAGER.

7.1.2 To view the recorded data, select "View Memory" from the main menu.

7.1.3 Please read the brief explanation then press "View memory". It is then possible to scroll through the unit's event memory; each event will have a time and date reference.

7.1.4 To exit the memory function, press "main menu" button.

7.2 Viewing the data on P.C. or Laptop

7.2.1 To view and download the data from the V9000 Seismograph, the Vibrock V9000 software must be installed.

7.2.2 Please refer to page 11 – 19 of the operator manuals for PC/Laptop data retrieval.

7.2.3 Vibration monitor has a rolling memory that after a time overwrites older data. Please ensure that the seismograph is backed up to the network at the end of each project or every two weeks by using the PC software.

8.0 Other V9000 Functions

The V9000 Seismograph has many extra functions such as SMS Alert, Remote modem set-up, GPS Locator and audible alarm. To apply any of these functions please refer to the operator manual. Please note that the above functions are not available on all devices, please check compatibility of your unit prior to use.

9.0 Care and Maintenance

- The V9000 Seismograph is a rugged piece of monitoring equipment designed to be weatherproof. It has a toughened Perspex screen which protects the LCD, and the PELI case can withstand severe handling.
- It is designed to be used indoors as well as outdoors but should be protected from the worst of wet conditions. Placing the instrument in a plastic bag during use in heavy rain or muddy conditions will prolong the life of the unit.
- Be aware that when the lid is open, the Seismograph is no longer weatherproof. It is recommended that if the batteries need changing during wet conditions, they are to be changed under cover.

1.0 Purpose and Scope

1.1 The purpose of this Method Statement is to ensure the Sonic Integrity Testing is carried out in the correct manner.

2.0 Health and Safety Controls

2.1 GEN-RA 1018 – Integrity Testing RA

2.2 Where it is deemed necessary to use mechanical excavators during the operation, the following safe working procedure must always be strictly adhered to.

2.2.1 Never approach or stand within the operating radius of any type of excavator whilst it is working.

2.2.2 When working in an area such that the operations can not be directed without entering the operating radius the pile shall be demarcated by means of spray paint or similar. Should a closer inspection be required before the operations are completed steps 2.2.3 to 2.2.7 must be carried out.

2.2.3 Before commencing work ensure that the operator has seen you and acknowledged your presence.

2.2.4 Before commencing work ensure that the operator has placed the bucket on the ground at least 2 metres away from you.

2.2.5 Before commencing work ensure that the operator has stopped the engine, engaged the deadmans lever and placed his hands away from the controls.

2.2.6 Instruct the operator that he is not to re-start his engine until you are clear of the working area and have signalled that he can start.

2.2.7 Whilst carrying out your work face the excavator whenever possible so that you will know if it begins to move.

2.2.8 If the above procedure cannot be followed, instructions in order to make the pile heads accessible are to be left with the main Contractor and another visit arranged in order to conduct the Testing. Under no circumstances are the Testing Engineers to use hand held vibrationary equipment e.g. breakers. If the pile heads are not correctly prepared instructions for preparation are to be left with the Main Contractor and a further visit arranged to complete the Testing.

3.0 Environmental Controls

3.1 Work must only be carried out in the site operational working hours.

3.2 COSHH Assessments must be available for all hazardous items used.

3.3 Fuel and Oil spills must be cleared as soon as possible. All spills must be reported.

3.4 All waste must be disposed of via the correct means.

3.5 Vehicle engines must be turned off when not in use.

4.0 Method and/or Process

4.1 Procedure

4.1.1 All operatives must have a site induction before commencing work and sign to confirm having read the risk assessments and COSHH assessments relevant to the task in hand

4.1.2 Once casting is complete, each pile and their environments must remain undisturbed within a radius of 2.5m from the start of hydration for a period of five days. Note: Satisfactory results cannot be guaranteed unless the piles are at least five days old.

4.1.3 Prior to testing, the piles must be prepared by the party undertaking the cropping of the pile in accordance with ICE/FPS specifications, and the prepared pile should be made accessible, free from latency, standing water and loose flakes, and clear of any obstructions or steel placement.

4.1.4 Prior to testing the pile, reference numbers must be agreed with the client representative. If no client representative is present on site, the orientation of piles is to be recorded on the Site Record Sheet PTF 025.

4.1.5 The pile reference number and any other relevant information is then entered into the sonic integrity testing equipment.

4.1.6 An accelerometer is firmly held on the properly prepared pile top.

4.1.7 The pile is then struck with a handheld hammer until a minimum of three similar representative blows have been recorded. The data is then stored on the Sonic Integrity testing equipment.

4.1.8 The operation is repeated until the required numbers of tests are complete.

4.1.9 Once the testing procedure is complete the Area Office Engineer is to be contacted to discuss the results before leaving site.

4.1.10 A copy of the Site Record sheet (PTF 025) noting the piles tested and any comments necessary will be left on site with the client representative, and a copy emailed to the Area office.

ROGER BULLIVANT

APPENDIX 3

PILING RISK ASSESSMENTS

ROGER BULLIVANT	SITE RISK ASSESSMENTS	CONTRACT: **Whalley Bridge Works** CONTRACT NO. **BM20/0071**

Stage 1 As the nature of the work undertaken by the company is repetitive in nature and uses standard products the company has produced a range of standard generic risk assessments. The assessments fall into 3 categories;
GENERAL - All disciplines, **DISCIPLINE SPECIFIC** & **SPECIALISED** - All disciplines.
The RBL Contracts Manager has indicated below which are applicable to this contract.

Stage 2 Before the start of the contract a site visit is to be conducted during which an inspection must be made to detect any particular hazards pretaining to the site. Consideration shall be given to all activities conducted during the execution the company's works which may endanger RBL personnel or any other persons in the vicinity. Once identified the relevant statements shall be ticked and any identified hazards recorded along with required control measures as appropriate. The person conducting the risk assessment shall sign the form.

Stage 3 On receipt of the site risk assessments all operatives shall read and acknowledge as understanding the hazards and controls required to carry out the task safely by completing the signature block. Queries shall be directed to the preparer of the documents.

1 **Risk Assessment Category**	**Risk Assessment Serial Number**	**Applicable (Tick)**
GENERAL - All disciplines	GEN-RA 1001	☐
DISCIPLINE		
PILING - Bored (Minipiling as required)	GEN-RA 1008	☐
PILING - Driven (Minipiling as required)	GEN-RA 1007	☐
GROUND IMPROVEMENT - Vibro Stone Columns	GEN-RA 1005	☐
GROUND IMPROVEMENT - NRG Compaction	GEN-RA 1003	☐
GROUND IMPROVEMENT - Cone Handling	GEN-RA 1032	☐
HOUSE FOUNDATIONS(inc SystemFirst)	GEN-RA 1006	☐
DYNAMIC LOAD TESTING	GEN-RA 1016	☐
SONIC INTEGRITY TESTING	GEN-RA-1018	☐
Covid-19	GEN-RA Covid-19	☐

2 SITE SPECIFIC RISK ASSESSMENT

Please tick which of the following statements apply:

No additional hazards on this site which have not been covered in the above documentation ☐

Additional hazards have been identified and have been detailed within the documents above ☐

3 I have prepared, briefed and issued the Risk Assessments, Method Statements & Safety Method Statements to RBL Site Foreman

Prepared by:

Signed: [redacted] Print: E Brindle Date: 22.09.2021

I have been briefed, read and understand the hazards that are applicable to this project and confirm that I have been issued all the Safety Documentation associated to this project.

Signed: _____ Print: _____ Date: _____
RBL Site Foreman

Signed: _____ Print: _____ Date: _____
RBL Operative

Signed: _____ Print: _____ Date: _____
RBL Operative

Signed: _____ Print: _____ Date: _____
RBL Operative

www.roger-bullivant.co.uk

RISK & WORKING ENVIRONMENT ASSESSMENT

Whalley Bridge Works

Operatives Name:				**Department**	NW UMP
Assessed By:	Paul Smith	**Signature:**	[redacted]	**Date:**	22.09.2021
In Consultation with:	E Brindle			**Contract No**	BM20/0071
Activity/Process:	SFA Piling			**RA Serial No.**	GEN-RA COVID-19 Rev 8

Risk Assessment Matrix

Severity \ Likelihood	1	2	3	4	5
1	1	2	3	4	5
2	2	4	6	8	10
3	3	6	9	12	15
4	4	8	12	16	20
5	5	10	15	20	25

Likelihood Key

Score	Likelihood
1	Unlikely
2	May Happen
3	Likely
4	Very Likely
5	Certain

Severity Key

Score	Severity
1	Minor Injury (First Aid)
2	Minor Injury (Hospital Treatment)
3	Seven Day Injuries (Time Lost)
4	Major Injuries
5	Death

ASK THE PC/CLIENT/SITE AGENT FOR CLARIFICATION CONFIRMATION OF SITE CONTROL MEASURES

TO BE USED IN CONJUNCTION WITH CURRENT COMPANY POLICY & FOLLOWING CURRENT GOVERNMENT DIRECTIVES SPECIFIC TO HOME COUNTRY OF WORK

THIS RISK ASSESSMENT REMAINS A DYNAMIC DOCUMENT AND SUBJECT TO REVIEW AND AMENDMENT

Risk Number	Activity &/or Associated Hazard	Person(s) Affected	Consequence	Risk Assessment Score			Control Measures	Residual Risk		
				L	S	R/R		L	S	R/R
1	Direct Contact with others in working areas	Operative(s) Any other RB Personnel (fitter, supervisor etc.)	Contract Virus Potential further medical complications Death	4	5	20	• Avoid direct 'face to face' contact with others • Keep 2m distance from others where this is not possible the hierarchy of control must be followed **Eliminate, Reduce, Isolate, Control, PPE (last resort)** and advice sought from the SHEQ Dept • Wash hands regularly with soap and water where available or alcohol sanitiser if not. • Communicate with site management on site via phone/email to minimise contact • One person to sign in for RB crew on site preferably another operative/ring site manager to sign you in • Avoid site communal areas • **Immediate notification if symptoms are present in yourself or other crew members.**	1	5	5

2	Use of company vehicle and associated duties	Operative(s) Any other RB Personnel (fitter, supervisor etc.)	Contract Virus Potential further medical complications Death	3	5	15	• Avoid public transport where possible but if this is the only option avoid peak travel times • Follow COVID-19 Addendum to the Group Fleet and Driver Policy regarding dual occupancy travel • Use pay at pump option &/or contactless • Use disposable gloves (if available) and bin after use to prevent cross contamination when refuelling • Swtch on ventilation systems while using work vehicles. Keep vehicle windows open • Wipe shared use areas with alcohol wipes/cleaner before and after use	1	5	5
3	Overnight Stays	Operative(s) Any other RB Personnel (fitter, supervisor etc.)	Contract Virus Potential further medical complications Death	3	5	15	• Avoid large social gatherings (pubs/clubs/restaurants) • Travel home where possible ensuring fatigue management measures are followed • Wash hands regularly with soap and water where available or alcohol sanitiser if not. **• Immediate notification if symptoms are present in yourself or other possible contacts.**	1	5	5
4	Site Induction	Operative(s) Any other RB Personnel (fitter, supervisor etc.)	Contract Virus Potential further medical complications Death	4	5	20	• Ensure site induction is carried out in controlled environment with sufficient space to keep 2m distance from other persons as per government guidance e.g. Briefing in open air environment • Site inductions to include measures put in place on site as a result of COVID-19	1	5	5
5	Welfare Facilities	Operative(s) Any other RB Personnel (fitter, supervisor etc.)	Contract Virus Potential further medical complications Death	4	5	20	• Avoid using canteen, where possible eat/drink in van. vehicle maintaining 2m distance and where site rules allow • Should you need to use canteen to access hot water or other facilties, ensure there is enough space inside to access ensuring 2m distance is kept • Ensure all welfare facilities are being kept clean • Monitoring of control measures must be in place • When using toilet facilities try to keep to a one in one out rule. If this is not possible, ensure 2m distance is maintained. • Wash hands regularly with soap and water where available or alcohol sanitiser if not.	1	5	5

6	Exclusion Zones	Operative(s) Any other RB Personnel (fitter, supervisor etc.)	Contract Virus Potential further medical complications Death	3	5	15	• Ensure exclusions zones are in place to avoid other site operatives do not come within Roger Bullivant working area. This will also ensure 2m distance from other persons is maintained where this is not possible the hierarchy of control must be followed; **Eliminate, Reduce, Isolate, Control, PPE (last resort)**	1	5	5
7	Job packs & paperwork	Operative(s) Any other RB Personnel (fitter, supervisor etc.)	Contract Virus Potential further medical complications Death	4	5	20	• Hands will have been cleaned and sanitised before job packs have been put together • Keep paper Job packs to a minimum where possible • Wash hands regularly with soap and water where available or alcohol sanitiser between each interaction	1	5	5
8	Use of Respiratory Protective Equipment (RPE) (Disposable and Reusable)	Operative/User Any other RB Personnel (fitter, supervisor etc.)	Contract Virus Potential further medical complications Death	3	5	15	• Hands and masks to be cleaned and sanitised before handling • Individuals must be clean shaven for close fitting masks masks. • After use - disposable masks must be placed in waste bin. Reusable masks are to cleaned in acccordance with manufacturers guidance and TBT 04/19 • Masks are precious in this period of health crisis. Take care of them and do not use them when they are not needed - **ONLY** as a last resort • Use of RPE must **not** be used for protection against COVID-19 where the 2m rule can be applied. • Use of RPE for protection against COVID-19 **must** be authorised prior to commencing task.	1	5	5
9	Dealing with a suspected COVID-19 case	Operative(s) Transport driver Any other RB Personnel (fitter, supervisor etc.)	Contract Virus Potential further medical complications Death	3	5	15	• Immediately isolate the ill person from the team and inform the line manager • Severe symptoms (respiratory problems, high fever), call emergency services and seek advice • Mild symptoms, ask the person to return home and to contact NHS 111 for advice or use online service inc testing • Arrange transportation for personnel to return home (if applicable) • Whenever possible, disinfect all equipment that has been in contact with the ill person. • Follow any guidance given by medical staff relating to subsequent isolation of contacts	2	5	10
10	Dealing with injuries under COVID-19 restrictions	Any injured person	Contract Virus Potential further medical complications Death	3	5	15	• The normal triage process should be followed and call the emergency services if necessary • Treatment to be carried out only by trained personnel • Ensure personnel are aware and understand the details details contained in TBT 0418 - 1st Aid and CPR -COVID-COVID-19 • Individuals to self-administer first aid where possible • Wear disposable gloves. Avoid touching your face or other parts of your body that may lead to you becoming becoming infected • Remove the gloves carefully when completed first aid treatment and immediately wash or sanitise hands • Reduce the amount of time of close proximity to the patient. • Ask patient to turn head away &/or cover mouth where where possible	2	5	10

ROGER BULLIVANT

RISK & WORKING ENVIRONMENT ASSESSMENT

Contract Name:	Whalley Bridge Works		[redacted]	**Contract No.**	BM20/0071
Assessed By:	E Brindle	**Signature:**		**Date:**	22.09.2021
Activity/Process:	Bored SFA Piling			**RA Serial No.**	GEN-RA 1001

Risk Assessment Matrix

Severity \ Likelihood	1	2	3	4	5
1	1	2	3	4	5
2	2	4	6	8	10
3	3	6	9	12	15
4	4	8	12	16	20
5	5	10	15	20	25

Likelihood Key

Score	Likelihood
1	Unlikely
2	May Happen
3	Likely
4	Very Likely
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Severity Key

Score	Severity
1	Minor Injury (First Aid)
2	Minor Injury (Hospital Treatment)
3	Seven Day Injuries (Time Lost)
4	Major Injuries
5	Death

Risk Number	Associated Hazard	Person(s) Affected	Consequence	Risk Assessment Score			Control Measures	Residual Risk		
				L	S	R/R		L	S	R/R
	Loading/Unloading machines & mobile plant	Site Personnel General Public	Crushing Impact Injuries Damage to property Death	4	5	20	• Only trained, competent, authorised personnel inc banksmen used • Trailer and ramps to be clean/dry free from oil/slippery substances • On public highway, create an exclusion zone to allow public safe passage • Wait for quite periods of traffic flow before loading • Use of warning signs and cones • Avoid loading/off loading plant adjacent to parked vehicles	1	5	5

	~~Overhead services~~	~~Operators~~ All Personnel in vicinity	~~Electrocution - serious~~ Electrocution - possibly fatal	3	5	15	~~• Permit to work in operation~~ • Compliance with GS6 - 'Avoidance of danger from overhead electric power lines' • Prevent machines ~~going too~~ close to overhead services • Use of demarcation methods e.g. Goal posts • Compliance with GEN-WID 1001 • Refer to Jacobs Drwg No C01a/0029/A0 for exclusion zone distances from overhead cables. • 4m 300 Limit of approach exclusion zone from overhead electric power lines. ~~• Toolbox Talks and training~~	1	5	5
	Underground services	Operators All Personnel in vicinity	Electrocution Explosion Death	3	5	15	• Permit to dig system in operation • Working area CAT scanned • Service plans examined • Safe digging practices employed • Compliance with HSG 47 'avoiding danger from underground services • Compliance with GEN-WID 1001 • Toolbox Talks and training	1	5	5
	Overturning mobile plant	All personnel in vicinity	Impact Crushing	3	4	12	• Installation of a designed piling platform in accordance with CDM regs for tracked plant • Localised soft spots and excavation to be back filled in a controlled manner • Working area should be inspected to check suitability for plant • Work should cease if operator deems the conditions are unsafe	1	4	4
	Manual Handling	Site Personnel	Sprains Strains Cuts Crushing Musculoskeletal Disorders Trapping Repetitive Strain Injuries	3	3	9	• Use of mechanical handling equipment - FLT • Use of handling aids - Trolleys • Job rotation or varying working patterns • Specific training to be given to all employees in manual handling • Regular toolbox talks • Manual Handling Risk Assessment	1	3	3
	Head Injury	Site Personnel	Head Injuries	2	4	8	• Head protection to be worn on all RBL sites • Only trained machine operators to be used • PPE training as required	1	4	4
	Hand/finger Injuries	Site Personnel	Impact Crushing Abrasions	3	2	6	• Suitable protective gloves worn on all sites • Training & Toolbox Talks to reinforce PPE • Activities carried out in accordance with current Method Statements	1	2	3
	Foot Injuries	Site Personnel	Impact Crushing Entrapment	3	3	9	• Suitable protective footwear to be worn at all times on all RBL sites. • Training and toolbox talks to reinforce PPE.	1	3	3
	Noise	Site Personnel	Hearing Impairment (long & short				• RBL provide information and training and make			

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		General Public	term)	3	2	6	hearing protection available (LEAV 80 dB) • RBL take reasonably practicable measures to reduce noise exposure (UEAV 85 dB) • Personnel not exposed to ELV 87 Db or 137 Db peak • All personnel must use hearing protection provided • Machinery serviced regularly and noise assessed	1	2	2
	Refuelling	All operatives	Dermatitis Eye Contamination Skin Cancer	3	3	9	• Appropriate PPE to be worn inc Fuel resistant gloves, coveralls and glasses • Supervisor to ensure correct PPE is utilised • Training in the dangers of hazardous materials & Toolbox Talks	1	3	3

	Unloading/loading & transport of material	All personnel in vicinity	Impact Crushing	2	4	8	• Restricted access to area during unloading process • Ensure SWL for machine/attachment is not exceeded • Travel at speeds suitable for the ground conditions • The fork extensions are to be used where applicable • The FLT tines are to be in a lowered position when moving around site, this includes moving materials • If using a crane a full lift plan must be in place	1	4	4
	Placement of cem caps on rebar & setting out pins	Operatives Site Personnel General Public	Impalement Lacerations	3	4	12	• All Rebar must be protected by placing CEMCAPS onto protruding ends • Ensure correct size of CEMCAP is used appropriate to Rebar • Regular checks carried out to replace missing caps • Sufficient supply of CEMCAPS is maintained at site	1	4	4
	Moving material into position & local storage	Pedestrians All personnel in vicinity	Crushing Impact Multiple Injuries Death	3	5	15	• Trained, competent, authorised personnel to operate forklift/excavator • Forks kept at maximum distance • Use internal site roads • Restricted access to area during unloading process • Monitoring of ground conditions to check for collapse of stored materials especially in inclement weather • Stacked material at safe & vertical height utilising wooded dunnage/chocks • The FLT tines are to be in a lowered position when moving around site, this includes moving materials • Ground must be suitable to withstand the weight of materials to be stored	1	5	5
	Use of Vibrating Hand Held Tools	Site personnel	HAVS disruption of blood flow to fingers Damage to nerve endings Numbness Whitening Loss of dexterity VWF (Vibration White Finger)	3	4	12	• Consider using Excavator mounted equipment if suitable for the task • Use hand held tools with low vibration levels • Rotate employees work schedule to reduce exposure time • Compliance with Control of Vibration at Work Regs 2005 • Vibration limits checked and set in accordance with equipment • Use specific to Exposure action value (EAV) and exposure limit value (ELV)	1	4	4
	Unloading by use of slinging	Slinger/signaller All personnel in vicinity	Multiple injuries Serious injuries Death	4	4	16	• Only trained and competent Slingers used • Correct slinging techniques & equipment used • Equipment and accessories checks to be carried out in accordance with LOLER	1	4	4

	Abrasive Wheels	Operator All personnel in vicinity	Lacerations Respiratory Problems Dermatitis Eye Injury Noise Induced Hearing Loss	3	4	12	• Trained, competent, authorised personnel to use equipment • Working guards fitted to equipment • Suitable and serviceable PPE to be used - Safety Goggles BS EN 166 with suitable impact rating for task - Gloves - Face Fit Mask • Use of water suppression as required • Good ventilation and vacuum • Correct discs suitable for the task & spindle speed • Correct storage of wheels & inspect before use • Working area clean and free from debris • Vibration limits to be checked and set in accordance with equipment use specific to Exposure Action Value (EAV) and Exposure Limit Value (ELV)	1	4	4
	Manual Hand Held Tools	All personnel using hand tools	Contact Injury Eye Injury Cuts & Abrasions	3	3	9	• Instruction given in use of tool • Suitable and serviceable PPE to be used • Appropriate tool selection in a serviceable condition • Toolbox Talks and training • Compliance with Toolbox Talk 20	1	3	3
	Vehicle Access & Egress	Site personnel Visitors Trespassers	Multiple Injuries Crushing Musculoskeletal Disorders Death Damage to Vehicles and Structures	3	5	15	• Traffic management plan to be put in place in accordance with CDM Regs • Maintain haul roads • Stick to site speed limits • Trained and competent operators/drivers • Maintain site security • Vehicles & pedestrian segregation	1	5	5
	Wet Concrete Works	Site Personnel	Dermatitis Concrete Burns Eye Injury	3	3	9	• Toolbox Talks and training • Suitable welfare facilities for washing • Suitable, serviceable & clean PPE to be used - Glasses & Overalls • Regular skin checks for dermatitis	1	3	3
	Operation of Mobile Plant	All mobile plant	Back Pain Whole Body Vibration	4	2	8	• Regular machinery maintenance • Tyre pressure checks • Seat adjustment in accordance with manufacturers guidelines • Good maintenance of traffic routes • Instruction, Training and supervision • Vibration limits to be checked and set in accordance with equipment use specific to Exposure Action Value (EAV) and Exposure Limit Value (ELV)	1	2	2

	General & Open Excavations inc Trenches	Site personnel All personnel in vicinity	Multiple Injuries Crushing Suffocation/Asphyxiation Fire Explosion Electrocution Drowning Death	4	5	20	• Permit to dig system in operation • Plant & materials to be kept away from side of excavations to prevent undue pressure or ingress of exhaust fumes • Shoring & edge protection measures to be put in place • Possible temporary works design for deep excavations • Suitable access/ egress arrangements must be available (ladders/ ramps) • Where a risk of water ingress is present suitable methods of prevention should be put in place (water pumps) • Inspections should be carried out prior to each shift or change in weather conditions • Gas monitoring • Suitable and serviceable PPE to be used • Compliance with GEN-SMS 1003	1	5	5
	Exclusion Zones for Piling Operations - reversing or manoeuvring rigs	All personnel in vicinity	Multiple injuries Crushing Death	2	5	10	• Rig Operators are trained to CPCS standards • Operators constantly vigilant and ware of other site workers • Exclusion zone of 6-11metres (dependent upon Rig model) surrounding all RBL Piling Rigs is to be enforced • Operator to cease operation immediately if exclusion zone is breached • Main contractor requested to provide a clearly marked barrier zone for rig operations • Site briefing and inductions carried out to reinforce • Compliance with GEN-WID 1047 - Rig Exclusion • In addition to the 6-11m exclusion zone there will also be a 5m exclusion zone around the right hand auger gate area at all times when concrete is being pumped.	1	5	5
	Collision with other contractors Plant and Personnel	All personnel in vicinity Site personnel Operatives	Impact Crushing Multiple Injuries Death	3	5	15	• Exclude non essential staff from the work area • All operators to be CPCS certified • Traffic routes should be established and adhered to • Constant vigilance by operators during operations	1	5	5

	Cutting/Grinding Materials (Portable Appliances) Associated Hazard - Burst wheel - Contact with Disc - Entanglement - Flying fragments - Dust - Noise - HAVS	Operatives All personnel in vicinity General Public	Lacerations Respiratory Problems Dermatitis Eye Injury Noise Induced Hearing Loss Death	3	5	15	• Trained, competent, authorised personnel to use equipment • Correct wheels/discs suitable for the task & spindle speed • Working guards fitted to equipment • Good ventilation and vacuum • Suitable and serviceable PPE to be used - Safety Glasses BS EN 166 with suitable impact rating for task - Gloves - Face Fit Mask - FR/ARC clothing &/or overalls • Correct storage of wheels & inspect before use • Vibration limits to be checked and set in accordance with equipment use specific to Exposure Action Value (EAV) and Exposure Limit Value (ELV)	1	5	5
	Driving Activities	All drivers Site Users Public	Death Multiple Injuries Serious Injuries	2	5	10	• Driver Licensed for Category of Vehicle • Periodic Driver Training Given • Periodic Licence Checks • Driver to Notify any Medical Conditions or Endorsements • Vehicle is in a Roadworthy Condition • Drivers handbook Issued • Topical Advice Issued Regularly • Management of driving & duty hours	1	5	5

	Clearing Pipe Blockages (Concrete) - Flexible Hoses causing Whiplash during pipe Blockage Clearance & Impact from Concrete Blown from Pipe.	All Personnel in the vicinity Operatives	Multiple Impact Injuries Hit By Projectile Concrete Death	3	5	15	• NEVER USE COMPRESSED AIR • Do not handle or attempt to move a Grout Hose whilst under pressure • On discovering a blockage; - Put the Pump into reverse gear to relieve the pressure in the hose - Switch off the pump - Remove the hose from the Rig Head and secure in a Safe Place for cleaning • Flexible pipes to be suspended and blockages dislodged by tapping or jerking • Water and drain rods to be used to clear fixed steel work • When using Grout Pumps Operatives must wear - Full Face Visor to BS EN 166B standard - Gauntlet Gloves - Safety Helmet • Goggles must be worn within the area of works. • All personnel must be clear of the Danger area during this operation. • Following Clearing, all pressure must be released from the Pipe Sections before Uncoupling • Never straddle a flexible pipe during any operation • GEN-TMS 1321 MUST be followed at all times	1	4	4
	Routine cleaning out pipe lines when no blockage has been present - Flexible Hoses causing Whiplash during Routine Pipe cleaning, using Compressed Air and impact from projected concrete or wash ball.	All Personnel in the vicinity Operatives	Multiple Impact Injuries Hit By Projectile Concrete Death	3	5	15	• Never handle or attempt to move a grout hose whilst it is under pressure • Flexible hose/pipes must be firmly secured by rope or • When using Grout Pumps Operatives must wear - Full Face Visor to BS EN 166B standard - Gauntlet Gloves - Safety Helmet • Goggles must be worn within the area of works. • All persons should stand well clear of discharge end of pipe and to the side away from the direction of ejection • Apply minimum air pressure to flush pipe • Should pipe fail to flush, turn off the compressor & control the release of pressure using the check valve • End of pipe must have a catch basket or other suitable (hole/digger bucket) method of suppressing the wash ball &/or projectile concrete escaping • ALL PRESSURE MUST RELEASED FROM PIPE SECTIONS BEFORE UNCOUPLING • GEN-TMS 1321 MUST be followed at all times	1	4	4

	Moving Rig with Hose Attached to Concrete Pump - Overturning of Concrete Pump / Rupture of Pressurised Hoses	All Personnel in the vicinity Operatives	Crushing Injury Impact from Projectile Concrete Impact from Rapidly Moving Hose	2	4	8	• CPA - Concrete Pump Operatives Safety Guide must be followed at all times • During Rig movement Rig Operator and Banksman to observe closely to ensure pump hose is not tensioned or damaged by obstacles. • Concrete pump operators to be CPCS Certified. • Good communication & co-ordination between pump operator & Banksman during rig movement • Length of hose suitable for task • Hose to be routed so that site vehicles do not track over & incur damage • Regular site monitoring to ensure compliance	1	4	4
	Lifting and Placing Heavy Steel Reinforcement Cages	All Personnel in the vicinity Operatives	Musculoskeletal Injuries Impact Crushing Slips, Trips & Falls Death	3	5	15	• Use Ancillary Winch on the Piling Rig to Lift and Place the Reinforcement Cages • Only cages that can be easily Man Handled, considering the weight and dimensions of the cage should be lifted by the operative • Consideration and reference to the Manual Handling Operations Regulations 1992 must be adhered to • The area where the cages are moved should be free from obstructions and firm level ground • Each individual task should be Risk Assessed accordingly • Personnel must remain clear of bucket/dipper arm and at a safe distance of the operation to avoid contact from falling material when utilising an excavator to carry out the operation	1	4	4
	Excluzion Zones for Piling Operations	Operative and Personnel in the vicinity	Death Multiple Injuries Crushing	2	5	10	• Exclusion zone of 11m (dependent upon rig model surrounding piling rig is to be enforced. • Operator to cease operation immediately if exclusion zone is breached. • Main contractor requested to provide a clearly marked barrier zone for rig operations • Site briefing and induction carried to reinforce • Compliance with GEN-WID 1047 Rig Exclusion zone • In addition to the 6-11m exclusion zone there will also be a 5m exclusion zone around the rig at all times when concrete is being pumped by all personnel	1	5	5

2	Operating Machinery (Piling rig) adjacent to railway infrastructure	Site personnel General Public	Piling rig overturns - mast falls onto railway infrastructure. Damage to railway infrastructure. Derailment of train/s. Injury or Death.	2	5	10	• Network Rail boundary is 20.05m away from the closest pile positions (see attached drawing), this should be maintained at all times. • Unloading should only take place in the designated unloading area and at no time should the rig be in a position that if it toppled over it would fall within the Network rail boundary line. • Only trained, competant and authorised personnel to operate machinery. • All plant and equipment shall be thoughoughly maintained and inspected in accordance with PUWER and LOLER regulations. As well as the company's plant and equipment testing procedures. • Piling platform to be designed, installed, maintained, regularly inspected and repaired as per the FPS Schedule of Attendances by the principal contractor. • Platform certificate to be in place. • Site briefing and induction carried to reinforce • Main contractor requested to provide a clearly marked barrier zone for rig operations • Carry out Toolbox Talk	1	5	5

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RISK & WORKING ENVIRONMENT ASSESSMENT

SFA Piling

Contract Name:	Whalley Bridge Works	**Contract No.**	BM20/0071
Assessed By:	Mark O'Neill **Signature** [redacted]	**Date:**	12.02.21
In Consultation With	Gary Hicklin	**RA Serial No.**	GEN-RA 1018
Activity/Process:	INTEGRITY TESTING		

Risk Assessment Matrix

Severity \ Likelihood	1	2	3	4	5
1	1	2	3	4	5
2	2	4	6	8	10
3	3	6	9	12	15
4	4	8	12	16	20
5	5	10	15	20	25

Likelihood Key

Score	Likelihood
1	Unlikely
2	May Happen
3	Likely
4	Very Likely
5	Certain

Severity Key

Score	Severity
1	Minor Injury (First Aid)
2	Minor Injury (Hospital Treatment)
3	Seven Day Injuries (Time Lost)
4	Major Injuries
5	Death

Risk Number	Associated Hazard	Person(s) Affected	Consequence	Risk Assessment Score			Control Measures	Residual Risk		
				L	S	R/R		L	S	R/R
1	Manual Handling	Site Personnel	Sprains Strains Cuts Crushing Musculoskeletal Disorders Trapping Repetitive Strain Injuries	3	3	9	• Use of mechanical handling equipment - FLT • Use of handling aids - Trolleys • Dual lifts where manual handling is unavoidable. • Specific manual handling for employees. • Personal capabiliy assessment where required.	1	3	3
2	Personal Injuries	Site Personnel	Head Injuries Upper and Lower Limb injuries, inc: - Impact - Crushing - Abrasions - Entrapment	3	3	9	• Activities carried out in accordance with task method statement. • Any required/necessary deviations must be risk assessed and briefed out. • Compliance with RBL PPE policy - head, eye, hand and foot protection worn at all times.	1	3	3
3	Noise	Site Personnel	Hearing Impairment (long & short term) Tinnitus Accoustic Trauma Stress	3	2	6	• Provision of hearing protection - Ear defenders/plugs. • Compliance with RBL mandatory PPE policy. • Equipment selected on lowest noise output potential. • Regular maintenance and service of equpment.	1	2	2

4	Use of vibrating hand held tools	Site Personnel	HAVS conditions inc: - Sensory impairement (numbness) - Disrupted blood flow in hands (blanching and burning sensations) - Loss of hand/finger dexterity - VWF (vibration white finger)	3	4	12	• Select vibration equipment based on lowest vibration magnitudes. • Regular maintenance and service of equpment. • Rotate employees work schedule to reduce exposure time.	1	4	4
5	Manual hand held tools	All personnel using hand tools	Contact injury Eye injury Cuts & Abrasions Repetitive Strain Injuries	3	3	9	• Instruction given in use of tool. • Pre-use equipment checks - quarantine/discard defective tools. • Appropriate tool selection, the right tool for the job. • Compliance with RBL mandatory PPE policy. • Regular breaks during prolonged activities/tasks.	1	3	3
6	Vehicle Operations on Site	Site Personnel	Multiple Injuries Crushing Death Damage to Vehicles and Structures	3	5	15	• Compliance with site traffic management plan and local rules. • Observe all speed restrictions.	1	5	5
7	General & Open Excavations inc Trenches	Site Personnel	Multiple Injuries Crushing Suffocation/Asphyxiation Fire Explosion Electrocution Drowning Death	4	5	20	• Comply with the requirements and controls in site specific safe systems of work: - Permit to dig - Dynamic risk assessment • Effective planning and organisation of works to ensure activites/tasks do not encroach on excavations.	1	5	5
8	General Plant and Piling Rig Operations	Site Personnel	Multiple Injuries Crushing Death	2	5	10	• Comply with the scope of defined exclusion zone. • Do not enter Rig/Plant exclusion zone without permission and acknowledgement from Rig - Foreman/Plant Operator and if safe to do so. • Observe and comply with pedestrian routes. • Compliance with RBL PPE policy - hi-vis garments.	1	5	5
9	~~Confined space~~ working inc removal of manhole covers	~~Site Personnel~~	~~Asphyxiation~~ Unconsiousness Nausea Brain Damage Heart Disease Death	4	5	20	• ~~Only confined space trained personnel are authorised~~ to enter confined spaces. • Safe System of Work ~~must be established before any confined~~ space is entered to undertake work e.g permit to work. • Safe system must take consideration of: - Air quality monitoring - Structural stability of confined space ~~- Plant, equipment, tools, materials and work method~~	1	5	5

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10	Wet Concrete works	Site Personnel	Concrete Burns Dermatitis Eye injury	3	3	9	• COSHH Assessment for Concrete Product. • Selection of PPE that are suitable and sufficient for task - compliance with RBL mandatory PPE policy. • Pre-use PPE checks - discard non-serviceable items. • Practice good personal hygiene and report any incidence of skin conditions.	1	3	3
11	Excavator Quick Hitch Operations	Site Personnel	Impact Crushing Death	4	5	20	• Use Standard Bucket/other ancilaries secured to excavator dipper with two pins where possible. • Only trained/competent personnel authorised to attach/change Quick Hitch attachments. • QH attachment installed/changed in accordance with manufacturers guidelines/GEN-SMS 1002.	1	5	5