

FM-OHS-0500-02 RAMS Template

Project Name:	Manchester City Football Club North Stand Extension
Project No.:	n/a
Date:	22/09/2023
Sisk RAMS No.:	01
Revision No.:	B
RAMS expiry date:	22/12/2023

Sisk/Sub-Contractor:	Van Elle
Work Package:	Piling to north stand , hotel and commercial building
Activity/Works scope:	Grouting of the existing voids caused by previous coal mining
Other related activities:	n/a
Start Date:	23/10/23
Duration of works:	12 weeks
No. of working hours/days:	60 days
Night time working anticipated?	No
Package Lead Supervisor:	Conor Keating
Task Supervisor(s):	TBC

Declaration by RAMS Author	Name	Signature	Date of visit
I have visited the site to assess the workplace hazards & risks and the site-specific requirement/controls required.	Conor Keating	Conor Keating	16/05/2023
Sisk Manager who attended the site assessment visit.	Conor Keating	Conor Keating	16/05/2023

Package Lead Supervisor	Signature	Date
Conor Keating	Conor Keating	18/05/2023

Note: The Sisk Package Manager will evaluate and accept/reject. The RAMS Control Sheet and the master copy of the approved RAMS must be maintained within the project filing system.

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Hold Point		Applicable to the works?	
If these risks apply to the works, and are not adequately addressed in the RAMS, the RAMS will be rejected.	Plant & People Segregation	☐ Yes	☒ No
	Working at Heights	☐ Yes	☒ No
	Live Energies	☒ Yes	☐ No
	Excavations and/or Temporary Works	☐ Yes	☒ No
	Lifting & Lowering loads	☐ Yes	☒ No

Methodology: Outline how the work will take place from arrival on site, to completion of works, step by step in detail to ensure no ambiguity.



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**Actions required before arrival on site and access/egress to the site
(include project specific restrictions/requirements supplied by Sisk)**

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The Main Contractor / Client will be responsible for

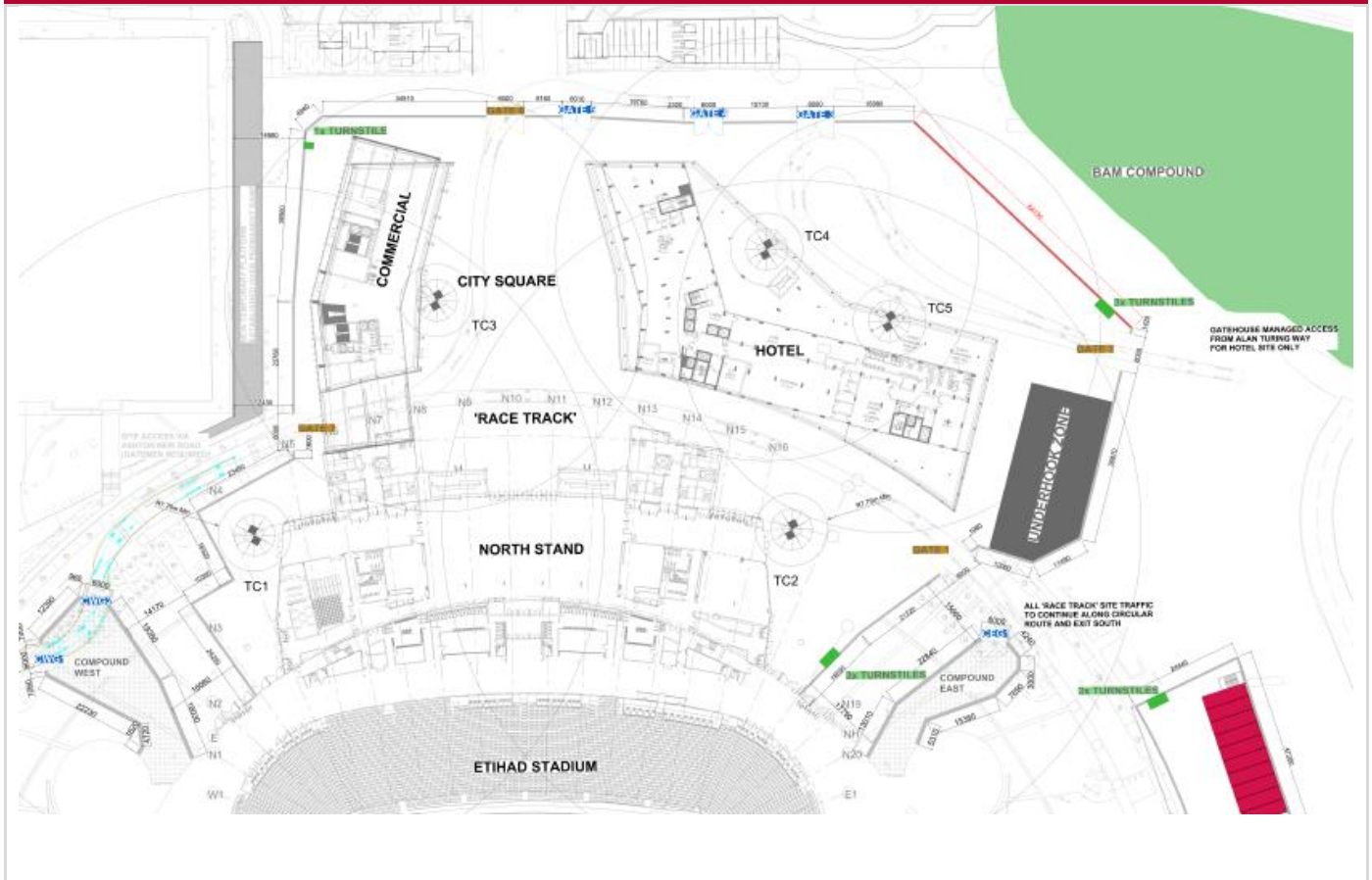
- Carrying out site-specific inductions to Van Elle employees
- In accordance with HSE guidance HSG47, the location, identification and marking of underground services within the working area and taking the necessary precautions to protect and avoid them. (eg isolation, diversion, shrouding etc.).
- Providing a suitably maintained working area
- Advising on known or likely ground contamination
- Signing the Van Elle Permit to Work (SET16) to confirm the above has been completed.
- Obtaining appropriate permissions/licenses from the local water authority to extract water using a standpipe
- Ensuring site security is suitable to protect all plant and equipment Member of the VE Contracts team shall ensure:
 - A visit to site is carried out prior to work commencing & a copy of visit report to be provided to site.
 - o Site specific hazards are identified, and suitable control measures identified.
 - o Presence of cracks on any structure within 10m shall be recorded on site visit report.
 - o Working Area requirements are communicated to the client/main contractor.
- Where work involves drilling through coal seams, a site-specific gas risk assessment is carried out to determine necessary control measures to protect against spontaneous combustion and gas migration
- That crew deployed to site have necessary competencies.

The Foreman shall:

- Walk the work area & confirm that all hazards are adequately controlled prior to work commencing.
- Ensure that client/main contractor has provided a suitable working area that is adequately maintained so as to provide a stable base for the rig.
- Check that the client / main contractor has carried out checks / protection for underground services
- Ensure that sufficient PPE provisions are available & that it is worn in accordance with Van Elle & Main Contractor requirements. Mandatory PPE is safety helmet, safety footwear, light eye protection and & Hi-Viz clothing. Other PPE such as hearing protection and FFP3 dust masks, in accordance with risk assessment. ALL PPE MUST BE CLEAN AND REFLECTIVE BANDS FREE OF DIRT. Should PPE be deemed unsuitable replacements will be ordered immediately.
- Check that the drilling rig, lifting accessories and other plant have in-date certification before use
- Ensure that daily inspections are carried out on all plant and equipment & a record of inspection completed on CON15. Any problems/defects must be reported to the Contracts Manager immediately. All machinery shall only be operated by trained & competent persons.
- Ensure that the Permit to Work (SET16) is signed prior to work commencing, and thereafter on a WEEKLY basis.
- Brief all operatives on the contents of the method statement and risk assessment and sign to confirm briefing attendance

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Location of the works (insert drawing/photograph showing task location and access arrangements)



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Material Delivery, Storage and Distribution

Outline safe arrangements for segregating people from vehicles/plant, traffic management, delivery (type of wagon), offloading including how materials will be offloaded/who by and secure storage

All site walkways to be adhered to. All information regarding this will be covered during the site induction.

All operatives to wear full orange PPE to aid visibility for anyone operating plant.

Exclusion zones to be briefed around rigs and work to stop if any unauthorised personnel accesses the area.

Access to be controlled by VE foreman and supervisor.

All rig movements to be controlled by a PVM.

Rigs to be fitted with gates which will stop the rig operating unless the gates are closed. In exceptional circumstances where access is very limited, the gates can be removed but alternate physical barriers must replace the gates. RAMS to be updated if this instance occurs.

Any applicable traffic management plans to be briefed during induction.

Wagons may be offloaded using a HIAB installed on the wagon, a telehandler may be used or excavator. All methods of unloading will be covered by a lift plan otherwise the lift will not take place.

Wagons will access exit and move around site only when the load is fully secured using chains, slings or and/or ratchet straps

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Sequence of Tasks Involved In The Activity

Detail step by step how they will be performed from start to finish, include sketch, drawings, photographs

North Stand extension piling

Proposed works are to install 52 Ø600mm & 242 Ø750mm Bored Cast In Place (BCIP) Piles to the required maximum design depth of 21m.

BCIP will be the preferred method based on our interpretation of the ground conditions on site from the provided ground investigation reports.

Klemm 709 rigs and STM-20 rigs will be utilised for this job as shown in the figures below.

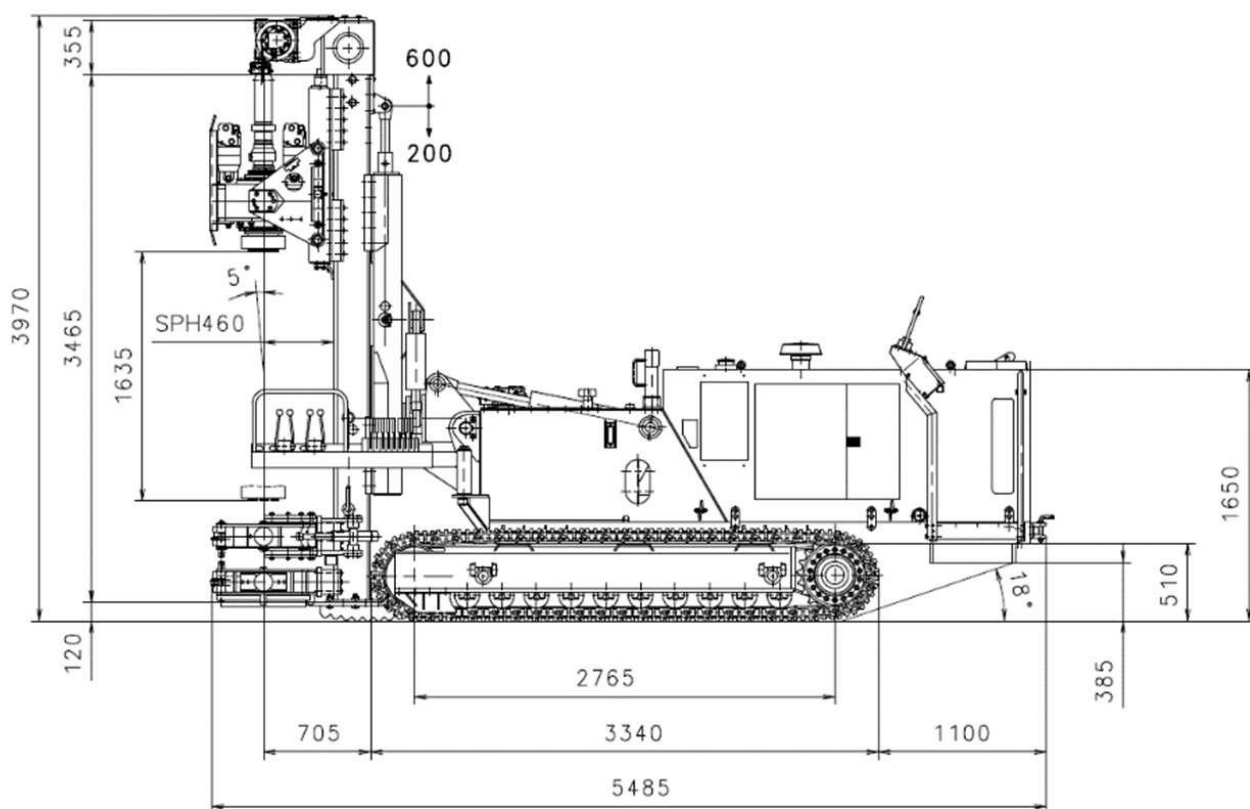


Figure 1 – Klemm 709 Piling Rig

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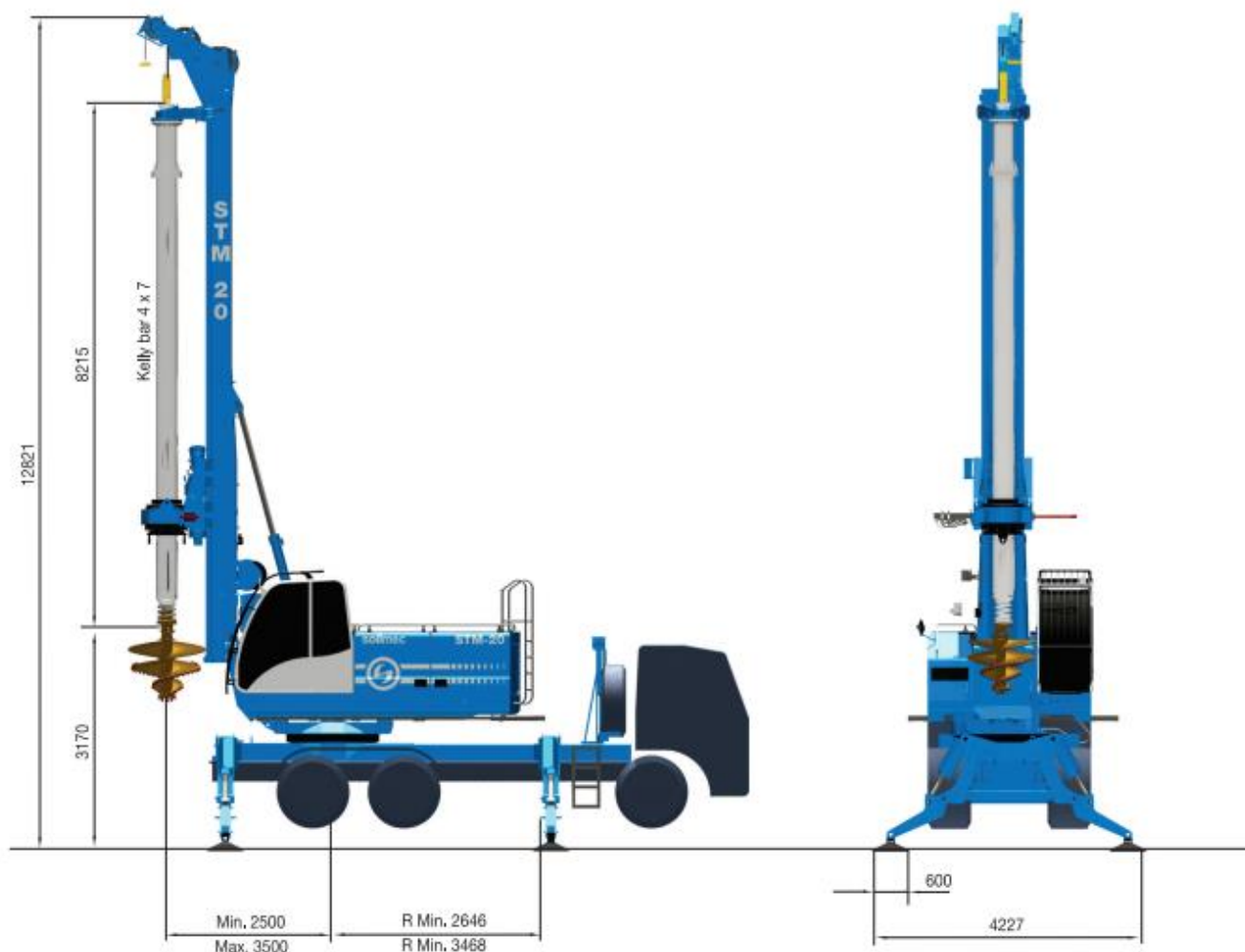


Figure 2 – STM -20 Piling Rig

The drilling rig will bore a lead casing into the ground, once installed the pins will be removed from the head of the drill rig to allow the head to travel up the mast ready to load in the auger. The lead auger will then be loaded & bored into the ground inside the casing. The process is then repeated adding casing and auger until competent material is reached. From this depth the auger is progressed, and additional sections of auger loaded until design depth is reached.

Upon reaching the required design depth, the augers are removed from the bore in the reverse of the above methodology.

Once all augers are removed the bore, the lower half of the cage is placed into the pile utilising the attending excavator and held in place with the hanging bar across cage and casing, the top half of cage is lifted into position with the excavator and connected with bulldog couplers. The cage is then lowered into the bore and the level set by the engineer with the cage is hung in position.

With the cage at depth and level by engineer, the concrete tremmie is dropped into the base of the bore and concrete is pumped into the bore. Concrete will be filled from the base to the piling platform maintaining a minimum of 9m of tremmie pipe in fresh concrete at all times.

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Once the pile is full the casing is removed by the rig, splitting them back down into 1m sections until all casings are removed and the pile deemed complete.

All arisings from the piling works are to be removed and kept clear of the working area by the attending excavator, removed from the work area using small dumpers to a stock area outside the ground. The John Sisk will then dispose of the spoil offsite. Appropriate chemical analysis will be carried out to determine whether materials are hazardous or non-hazardous and then disposed of via the correct facility

All Van Elle works will be carried out within a fully contained area provided by the Main Contractor away from the public.

The Main Contractor will provide a suitable laydown area for all plant & materials inclusive of 2No. full pump plant setup. The Main Contractor will be responsible for protecting the public, all nearby buildings and watercourses, roads etc. and creating safe suitable access/egress for all Van Elle plant, consumables and labour.

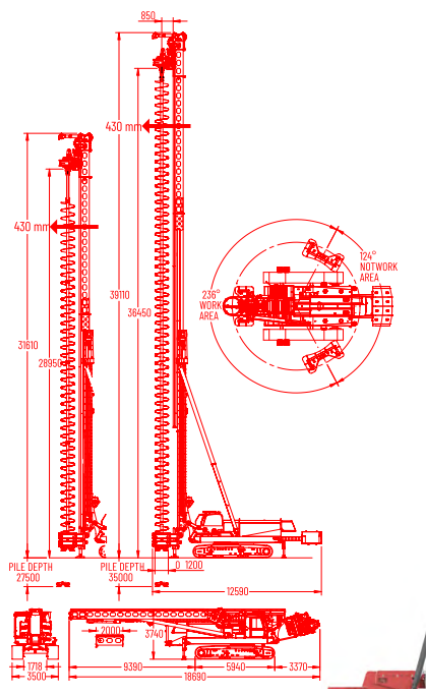
All surplus concrete, pile arising's and any other waste is to be diverted away from the working area regularly to ensure a safe working area by the attending excavators and dumpers to spoil stockpile area. Concrete wash out area in close proximity to the concrete pump set up outside the stadium is to be provided by the main contractor.

Hotel and commercial piling

Proposed works are to install 420no. Ø450mm, Ø600mm Ø750mm Continuous flight augered (BCIP) Piles to the required maximum design depth of 21m.

CFA will be the preferred method based on our interpretation of the ground conditions on site from the provided ground investigation reports.

Lllamada P160 rigs will be utilised for this job as shown in the figures below.



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Drilling the pile

Prior to commencement of piling, the Foreman will ensure that sufficient approved material and resources are available to complete a pile.

The auger string will be built at a suitable agreed location. When undertaking repairs requiring the augers to be inserted into the ground, the augers shall only be screwed into the ground at pre-agreed positions (which will be checked by the setting out engineer) away from contract pile positions. In addition, these positions must be free of services and will be confirmed as suitable on the Permit to Dig.

The Site Foreman will ensure that movement of the rig does not damage previously constructed piles by either travelling over or surcharging them and the piling works shall be sequenced so as to avoid this occurring.

The pile position shall be sufficiently distant from recently cast piles to prevent damage occurring during boring.

Prior to commencement of piling the Foreman will check the concrete pump to be used, calibrating the pump stroke counter by pumping a known volume of concrete through the concrete lines and counting the number of strokes taken both manually, and by the concrete pumps stroke counter. He will ensure that the correct calibration figures are inserted in the rig instrumentation before starting work. This shall be carried out once, at the beginning of the contract works, and repeated weekly, and where the equipment is damaged or replaced. The pump calibration sheet will be updated following each calibration and retained within the site file.

Before the start of the piles the setting out equipment should be checked and calibrated as to ensure that there is a minimal margin of error when marking the setting out the piles (by Sisk). Calibration of setting out equipment should be completed in accordance with Sisk quality procedures.

Before the start of each pile the driver and foreman shall ensure that the rig instrumentation system is in full working order. Where it is found to be in error, or the system develops a fault prior to the commencement of a pile, work shall be stopped until the fault / error has been fixed, the system re-calibrated, and confirmed to be in full working order.

Before the commencement of the first pile each day, the hoses and pipeline shall be lubricated with a prime-a-pump mix. Concrete will also be passed through the pipeline before starting the next pile. This operation may be repeated during the day if the pump and concrete line have been washed out or when keeping the lines 'live'.

During the entire construction of the pile a secondary exclusion zone must be established. This zone is defined as the area around the front of the rig. From the front of the rig (where possible) the secondary exclusion zone extends beyond the bore by a minimum of 2.0m. The secondary exclusion zone will be demarcated by means of red coloured crowd barriers. Only the Nominated Banksman will be allowed within the secondary exclusion zone, and will be in charge of any other persons who require access. Given that the rig is anticipated to install multiple piles within one shift, the secondary exclusion zone may be extended to an area which may cover multiple piles. The nominated Rig Banksman will also be in direct control of the attendant excavator. Once the excavator is in stationary position, i.e. clearing around the pile, the nominated rig banksman will put barriers around the excavator working area to define excavator exclusion zone.

The attendant excavator driver must ensure that the Rig Banksman is clearly visible at all times whilst carrying out any activities. Under no circumstance must the Excavator operate without instruction from the nominated Rig Banksman, when operating alongside the rig.

The piling rig will be set up over the pile position and its level and verticality checked using the onboard instrumentation.

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The rig will be tracked into approximate position and, depending on auger type, either a bung will be inserted in the bottom of the auger or the auger flap closed.

The auger is centred vertically over the pile position. The rig incorporates a self-levelling device and the mast is checked and adjusted for verticality using the cab instruments. The hydraulic mast foot is then lowered to the ground.

The Nominated banksman will check the position of the auger tip by use of the reference pins and the setting out position will be checked before the auger commences drilling. Final adjustment of level and verticality of the rig mast will be undertaken. The auger tip will be lowered to the ground by the Rig Operator and the Nominated banksman will again check its position by use of the reference pins. If the auger tip is positioned within the plan tolerances, the rig instrumentation will be re-set and boring of the ground will then commence. During drilling the auger will be monitored and the mast verticality will be checked as to ensure the verticality of the pile stays within tolerance.

The bore will be progressed until the required design depth is reached. As the spoil is generated the attendant excavator will regularly clear the spoil around the pile to avoid build up.

The auger gates will be kept closed at all times. If the gates have to be opened for any reason, this should only be done with the auger stopped i.e. not rotating for drilling/withdrawing operations.

Concreting the Pile

The Foreman will ensure, by checking the delivery ticket, that the concrete ordered and delivered to site meets the specified requirements noted on the mix design.

The site foreman will order the first load of concrete to prime the lines and the system. When the foreman is satisfied there are no blockages he will commence drilling.

On reaching the required design depth the rig operator will signal to the pump operator to commence pumping of the concrete. The drilled depth will be recorded on the CFA computer log and on the rig driver record sheet.

Prior to the load of concrete being discharged into the holding drum, a consistence test will be carried out to ensure the concrete is within specification. In addition, the pump operator shall visually inspect the concrete as it is discharged into the holding drum.

Concrete sampling on site will be as per the Inspection and Test Plan and the piling specification for this project. Concrete sampling is collected upon delivery and prior to its use.

Should the piling works be planned for the winter period or over a period of expected bad weather, discussions will be had daily with the concrete batcher regarding the expected temperature at the batching plant so that plans can be put in place regarding the concrete temperature. The temp of concrete must be a minimum of 5°>. This will be checked on cold days where the batcher reports a temperature of <2° at the batching plant using on site thermometers. If the concrete is not at the minimum temperature, the load will be held on site for a duration and re-tested until the temperature is correct and used, or the load is out of spec and returned.

Dry, un-cohesive, 'balled' or stony concrete shall initially be reported to the concrete supplier for remedy. Persistent problems will be reported to the Contract Management for resolution with the Supplier.

Concrete that has passed two hours from time of batching shall be visually examined for suitability and a flow test carried out. If the flow test demonstrates that the material still has sufficient workability, and is within the

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specification, it may be used. A further set of 4 cubes shall be taken from this concrete. This procedure shall be repeated at ½ hourly intervals until the load of concrete has been fully used or is out of specification and cannot be used.

The auger will not be raised until either the specified pre-charge volume of concrete has been pumped through the auger or until a positive pressure registers on the instrumentation. As soon as one of the above criteria has been met the auger tip will be raised approximately 100mm to allow the bung to blow/flap open.

The speed of extraction of the auger shall be controlled with regard to the oversupply of concrete as recorded on the rig instrumentation. Limits for the oversupplying of concrete will initially be set by Contract Management, taking into account the expected ground conditions.

Provided there is an oversupply of concrete, there is no minimum concrete pressure requirement. It is expected that evidence of concrete at the surface will occur when the tip of the auger is still up to 2 metres below ground.

If either the height of concrete on the tip of the lead auger exceeds 2m or if concrete is not present at all, the Foreman shall immediately inform the Project Manager. Usually the oversupply limits entered in the rig instrumentation will be adjusted to take into account the actual ground conditions prevailing on site. Any pile that is constructed without concrete appearing on the auger tip will be re-bored and re-concreted to the surface using the re-set oversupply limits.

Any unexpected loss of concrete (exact parameters to be agreed) will result in piling ceasing and will be reported to site management immediately so they can inform all relevant parties.

Concreting of the pile bore ideally is to be a continuous process. If there is an interruption in concrete supply of more than 20 minutes once concreting has started the auger will then be re-bored a minimum of 1m into the concreted bore.

In the event of a concrete blockage or if the auger has to be extracted for any other reason, the auger will be reversed out leaving all excavated material in the bore. On clearance of the blockage the pile will then be re-bored a minimum of 0.5m into the concreted bore.

The spoil will be cleared from the augers during the concreting operation by a full time attendant excavator and the rig mounted auger cleaner positioned above the gates. Spoil will be cleared beneath the gates, if possible. An attendant dumper will move the arisings to an onsite stock pile to ensure that spoil does not foul the platform area.

Both the auger cleaner & star cleaner, operated by the rig driver, will be used during all piling activities and brushes will be monitored daily for wear and tear.

No spoil must ride up the auger beyond the auger cleaner.

When the tip of the auger is at or approaches ground level, the rig operator will operate the automatic stop button to cease pumping. The pumpman shall then ensure that concrete is no longer discharging from the agitator in the pump hopper to prevent any spillage of concrete.

Once concreting has been completed, the piling rig will then be reversed off the pile position under the supervision of the nominated banksman. The pile head and site surface will be cleared of spoil by the excavator.

The pile head will then be located by the banksman who will scoop out any contaminated concrete and ensure the pile concrete is sound at ground level.

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the lines the bagging from the pump to the rig is cleared using a ball and a blow out chamber. When the system on the rig and the auger stem is being cleaned, a blow out box will be positioned in front of the auger and then the lines blown through. When the pump needs to be cleaned, the pipes will be disconnected and water jetted into the pump and the hopper via a jet wash.

Installing the Pile Reinforcement

Reinforcement cages will be prefabricated off site. The cages will be transported to site by articulated 45ft Hiab wagons. Cages will be stored in an area which will both allow easy and efficient access and will minimise the possibility of damage or contamination with soil.

Upon delivery of cages, the Site Foreman / Site Engineer will check the quantities to ensure that they are compliant with the design.

Upon completion of concreting, the piling rig will be moved away from the pile position and the spoil at the top of the pile will be cleared by the attendant excavator. The banksman will clean the top of the bore using a shovel to expose the extent of the wet concrete and remove any deleterious materials at the top. The crane banksman will select the correct cage for each pile. The pile cage will be lifted on the certified lifting band from horizontal to vertical and suspended over the pile bore. All lifting operations will be controlled by the Lifting Supervisor and nominated Banksmen (identifiable by wearing orange helmets) in accordance with the Site Lifting Plan.

As the cage is lowered into the bore, the condition of the skid spacers will be inspected and if required, additional wheeled spacers will be added to the cage to ensure the correct cover is achieved.

On completion of the pile the foreman will visually inspect the work for possible defects including the finished level of the concrete and reinforcement. The casting level of concrete and top of steel will be to platform level.

Care will be taken to avoid slippage into the fresh concrete by installing barriers around the constructed piles.

Once the pile is completed, the rig banksman will place barriers 'with signage' around the wet bore to highlight the position of the pile. These shall not be removed until the pile concrete has set. Alternatively, steel pile covers will be placed over the completed pile to minimise the risk of injury due to falling into the freshly concreted pile, and protect the pile from damage.

To keep the records of piles, computerised CFA pile logs will be used in conjunction with site pile record sheets. These logs will be reviewed on a daily basis by the contract management to be sure of any non-conformities and change in ground conditions.

Clearing of concrete lines

At the end of each shift concrete will need to be cleared from the delivery hose.

The rig will be positioned away from any other activities in the area into site so as not to risk any materials leaving the site boundary.

A half casing clean out chamber will be placed in front of the rig, the auger will then be tracked into the chamber ready to be cleared. A P500 grout mix will then be delivered to site and pumped through the lines to

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Anticipated Waste Control and Disposal Arrangements**(Sisk must be notified of waste leaving site)**

Any arising or waste products will be placed in skips and removed from site using a licenced waste carrier. A copy of all transfer notes will be kept on site.

Communication to Personnel on Site

Number of persons anticipated on site	12		
Will any of your workforce be non-English speaking or reading	☐ Yes	☒ No	
Confirm the % of your workforce that will be non-English speaking or reading			0 %
If yes, please state their first language(s)			
n/a			
How will the contents of this RAMS be communicated;			
Van Elle site operations will be under the full-time supervision of a competent and experienced Foreman who has completed Supervisor Training (NVQ3 / SSSTS). The Site Foreman for this project will be identified in due course upon specific request. • The Foreman will be responsible for daily routine operation; preparation and submission of all daily records; receiving and acting upon formal site instructions; and reporting site conditions which may require variations to this method statement. • The Foreman will report directly to the Contracts Manager / Director on a regular routine basis or on specific instances when necessary. • The Divisional Director responsible for this project is Dave Warner • Site safety tours are carried out at regular intervals by our Safety Dept and Contract Management personnel			

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Permits Required – Type	
Sisk Permits	Permit Required
Permit to Break Ground	Yes
Lift Plan	Yes
MCWP Permit	No
Shaft Access Control Permit	No
Ladder Permit	No
Unguarded Proprietary Access Equipment Permit	No
Hot Works Permit	No
Confined Spaces Permit	No
Live Energies Permit	No
Other specified permit	N/A

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Work Specific Emergency & Rescue Procedures

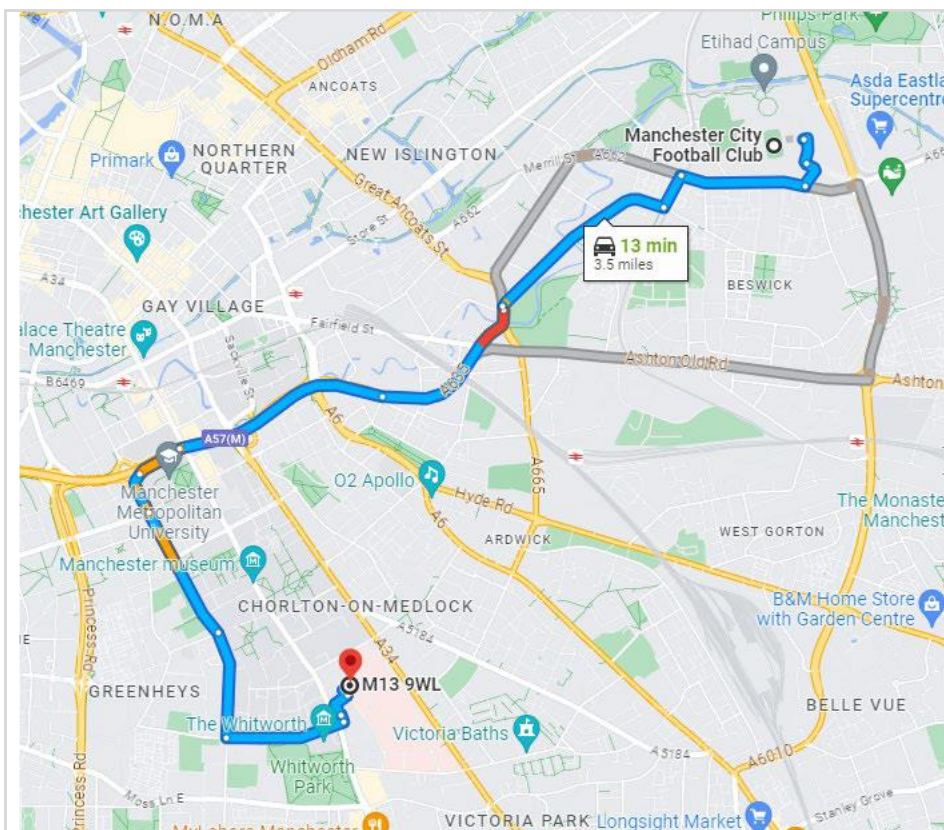
Set out the Emergency Rescue procedures to in

clude details of equipment required, where it will be stored and any mandatory training requirements:

Main contractor will induct all site operatives into the site-specific emergency arrangements.

- Van Elle crews are equipped with several 2kg dry powder extinguishers and first aid provisions to complement the main contractor's arrangements.
- Emergency First Aid & Fire Awareness training has been completed by the crew.
- Spill kits will be provided, and our crews instructed in their use.
- All accidents & near misses must be reported directly to the Van Elle HSQE Dept. on 01773 304065 and the Main contractors site manager

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Route Map to
Manchester Royal
Infirmary

Before commencing work, the foreman must brief all operatives on site of the emergency procedures that must be carried out in the event of: fire, accident, large spillages (fuels, oils or grout) and equipment failure.

- Main contractor will induct all site operatives into the site emergency arrangements.
- Van Elle crews are equipped with a number of 2kg dry powder extinguishers and first aid provisions to complement the main contractors arrangements.
- Emergency First Aid & Fire awareness training has been completed by the crew
- All plant and Equipment to have Emergency spill kits and drip trays
- All accidents & Near misses must be reported directly to the Van Elle Safety Dept. and the Main contractors site manager immediately.

SERVICE STRIKES

- All known services to be identified on Permit to Break Ground
- Electric - Switch machine off & evacuate all personnel on the ground. Do not attempt to disengage the cable from the rig. Do not touch exposed cables.
- Gas - Switch all machinery off & evacuate all personnel to safe distance. Extinguish all naked flames. No smoking. Gas emergency number is 0800 111 999.

FIRST AID INFORMATION AND EMERGENCY ACTIONS FOR COSHH SUBSTANCES

- Inhalation - Remove casualty from exposure ensuring your own safety whilst doing so. Keep casualty warm & at rest. Seek medical attention.
- Eyes –Irrigate with plenty of water, if irritation persists seek medical attention.
- Skin – Wash with soap and water, remove contaminated clothing
- Ingestion - wash mouth / nose out with water, DO NOT induce vomiting. Seek medical attention

SPILLS

Spillage management – Eliminate sources of ignition. Contain spillage in booms or sand or absorbents. All contaminated items & oil must be returned to your office/dept & be disposed of at an authorised disposal facility.

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Name of First Aider	Conor Keating
No of additional trained First Aiders	3
Location of First Aid kit	Site Welfare Cabins and Main stadium