

CFA Piling RAMS Issue Sheet

24/03/2023

Nuria,

Please find enclosed RAMS pertaining to the CFA Piling works at Crown Trading Estate.

These RAMS have been produced by OH Piling whom will be subcontracted by Henrys to complete these works.

Kind Regards,

Alan Gavin

Project Manager


Phone No.:07380440808

Email: Agavin@henryconstruction.co.uk



Henry Construction Projects Limited

Parkway Farm, Church Road, Cranford, Middlesex, TW5 9RY

Title	Combined Method & Risk CFA Piling	
-------	--------------------------------------	--

Client	Henry Construction Projects Ltd			
Project/Task	Crown Trading Centre			
Job No.	Date 19/02/2023			
OH Contacts	Operations	Harley Cottrell	Tel no.	07543719232
	Site Supervisor	TBC	Tel no.	
	HSQE Dept	Darren Banner	Tel no.	07852904252

Revision Status

Initial	Name	Position	Date	Signature
Prepared by	Harley Cottrell	Operations Manager	19/02/23	<i>Harley Cottrell</i>
Reviewed by	John Noone	Director (OH)	19/02/23	<i>John Noone</i>
Client Acknowledgement by				

Rev no.	Revised by	Date	Amendments

EMERGENCY CONTACT DETAILS	
Harley Cottrell	07543719232
<p><u>Site location is:</u></p> <p>Crown Trading Centre, Hayse, UB3 1DU</p> <p><u>Hospital location is:</u></p> <p>Hillingdon Hospital, Pield Heath Road, Uxbridge UB8 3NN</p>	

Title	Combined Method & Risk CFA Piling	
-------	--------------------------------------	--

BRIEFING SHEET

By signing this method statement, I confirm that I have been briefed on its contents and understand my personal responsibilities to work in accordance with the RAMS and to **not undertake anything which adversely affects my own safety, or that of others**


I understand that I must stop work and notify my Line Manager if I cannot complete my work in accordance with this method statement.

I understand that I have a responsibility to challenge & report unsafe acts and conditions; copies of any reports shall be passed to the site manager and to OH Piling's H&S Dept.

All accidents must be reported directly to the OH HSQE Dept. on **020 8754 1227**

I understand that mp3 players, or other personal entertainment items must not be used in operational areas. Telephone calls must only be taken from a position of safety. Machines must be brought to a halt before calls are taken.

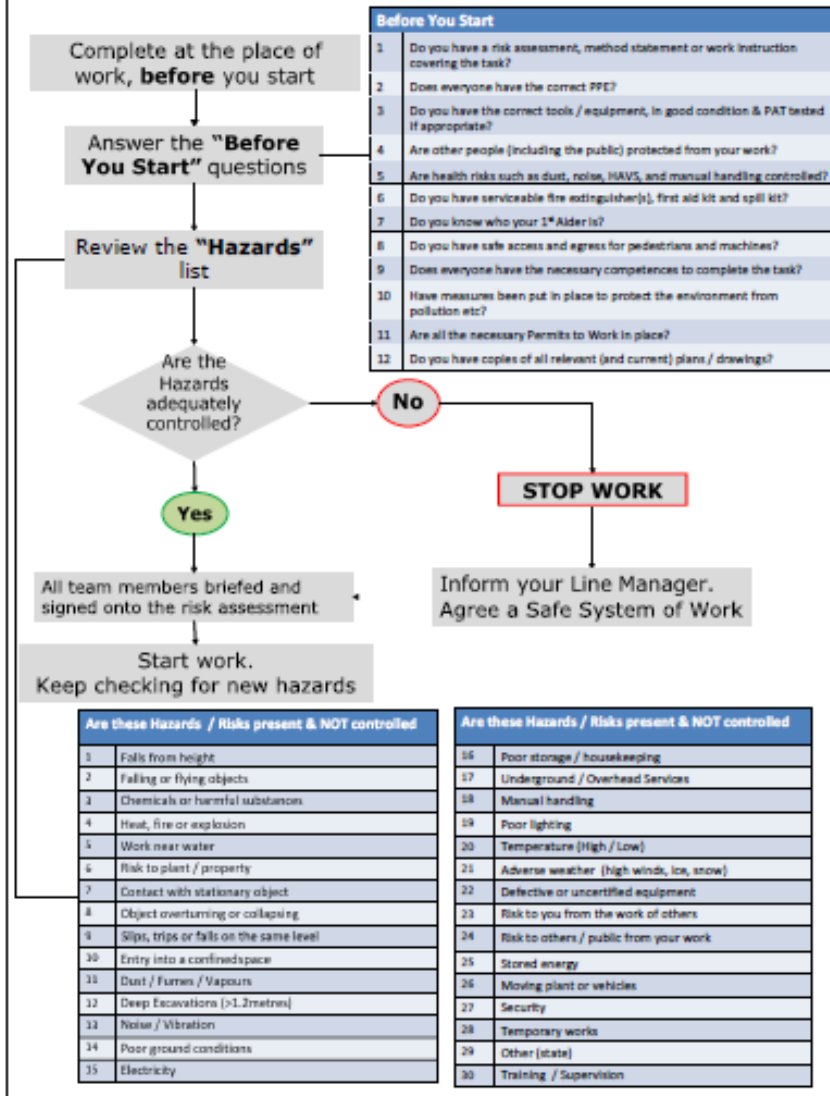
<p>An OH Permit to Work must be completed fully and signed off.</p> <p>You must wear your PPE in accordance with the site rules and this RAMS. PPE must be maintained in a reasonable condition.</p> <p>You must not attempt to start work if you are in possession of, under the influence of alcohol or illegal substances. You may be tested at any time under the OH Policy.</p> <p>Your work must stop and be reviewed if it is putting members of the public or other contractors at risk.</p> <p>Make sure other contractors are excluded from your work area.</p> <p>You must only carry out work for which you are trained and competent.</p> <p>All plant & vehicles movements must have a Banksman in attendance.</p> <p>Edge protection or fall arrest must be in place for work at height.</p> <p>All plant & equipment must be inspected and maintained in good working order.</p> <p>Use the correct tools & equipment for the task at hand. Do Not Improvise.</p> <p>All work areas must be kept clean & tidy. All debris to be placed in the correct waste skip.</p>	Date	Name	Signature	Job Role	First Aider?


Title	Combined Method & Risk CFA Piling	
-------	--------------------------------------	--

Amendments to RAMS

	List below any changes in site specific hazards that have been introduced		
	What additional controls have been implemented to address the risks?		
Briefed By:			
	Name	Signature	Date

Dynamic Risk Assessment



Title	Combined Method & Risk CFA Piling	
-------	--------------------------------------	--

Scope of Works

The installation of CFA piles
– 822no. 600mm CFA bearing to max depths of 25m

Sequence of works:

1. Mobilise into site
2. Set up site, in the most efficient way to minimise delays or congestion on and off site
3. Work to agreed location sequencing in Each area to Install bearing Piles
4. Demobilise site

These works will be carried out in one visit.

Plant List:

- 1No. Casagrande B175xp-2, with NDT Technology Telemetry Computer
- 1No. 20T 360 Excavator c/w minimum 1T lifting eye + operator (in full time attendance 10hr shift, HCPL to supply)
- 1No. Diesel Jet Wash Bowser
- 1No. Concrete Pump
- 1No. Concrete Holding drum
- 1No. Three Tool Compressor
- 1No Diesel Bowser
- 1No 16m Diesel Cherry Picker

All services, including existing public foul sewer to be diverted to mitigate any issues with the piling works. To assist with Preventing any potential damage to subsurface sewage infrastructure, all services to be relocated/diverted within the piling mat areas, any services within close proximity are to be clearly marked and protected by HCPL.

OHP permit to work to be signed by HCPL prior to any piling commencing on all sites.


Testing:

- 100% integrity testing
- 1No. set of 4No. concrete cubes per piling day. Cubes to be tested at 7, 14, 28 & 56 days
- Load Testing – N/A

Pile mat thickness to be monitored regularly as works progress due to rutting, spragging, inclement weather, excavator scraping away pile spoil on a daily basis which may reduce the design thickness.

Setting Out Engineer to be in full time attendance to carry out spot levels at regular intervals to check any deterioration in the pile mat thickness as works progress. Engineer to also mark out and check positioning of piles both before and after installation. The setting out engineer to complete daily spot level checks in high traffic areas.

Rig	Commencement Date	Approx programme/duration of works
Casagrande B175xp-2	WC 29/05/2023	9.5 Weeks excludes any testing

Title	Combined Method & Risk CFA Piling	
-------	--------------------------------------	--

Method of Work and Control Measures

Prior to work commencing

Member of Contracts shall ensure:

- A visit to site is carried out prior to work commencing & a copy of visit report to be provided to site.
 - Site specific hazards (eg underground services, overhead services & contamination etc) are identified and suitable control measures identified.
 - Platform requirements are communicated to the client/main contractor.
- That crew deployed to site have necessary competencies

Supervisor and Rig Operator fully trained and competent in using the NDT Technology Telemetry Computer System


Piling Foreman / Supervisor	SSSTS Trained
Piling Rig Operator	CPCS Bored Above 20T
Banksman	CPCS Slinger Signaller
Concrete Pump Operative	CPCS Trailer Mounted Concrete Pump
Excavator Driver	CPCS Excavator (180° or 360° depending on site) Supplied by HCPL.

The Main Contractor / Client will be responsible for

- 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 designed, constructed and maintained working platform for the duration of the contract. Test information shall be passed to the designer for review. The FPS Working Platform Certificate shall be signed by an authorised person from the Main Contractor to confirm that the installed platform is capable of providing a stable base for the rig deployed to site. This must be signed prior to the rig being erected. The Working Platform Regular Inspection Log shall be completed after any platform disturbance or at least once per week.
- Advising on known or likely ground contamination.
- Signing the OH Permit to Work to confirm the above has been completed.
- Protection of public / 3rd parties from concrete / falling spoil going beyond site boundary. If public footpaths or parking areas are adjacent to the piling area then additional precautions (eg watching/divisions/protection) should be employed
- Protection of road surfaces, pavements, buildings & services

The Foreman shall:

- Walk the work area & confirm that all hazards are adequately controlled prior to work commencing.
- Ensure that client/main contractor has signed off the Working Platform Certificate to verify that the platform has been installed in accordance with the platforms design.
- 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 OH & Main Contractor requirements. Mandatory PPE is safety helmet, safety footwear, light eye protection and & hi-viz clothing. Other PPE in accordance with risk assessment.
- Check that the 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. Any problems/defects must be reported to the Contracts Manager immediately. All machinery shall only be operated by trained & competent persons.
- Ensure that a suitable excavator with lifting point has been supplied in full time attendance. The Foreman will induct the attendant driver into the piling process & check certification. Excavator Induction Checklist to be completed.
- Ensure that the Permit to Work is signed prior to work commencing, and thereafter on a WEEKLY basis.
- The OH Permit & WPC must be signed before erecting the rig.

Title	Combined Method & Risk CFA Piling	
-------	--------------------------------------	--

Mobilisation & site set up

All vehicles will be supervised by a Banksman and enter site as per the designated route agreed at Pre-Start Meeting.

The foreman shall

- Make sure any building, services or footpath is protected before any unloading takes place.
- Assess the area designated for unloading & storage, taking into consideration surrounding buildings, other contractors, pedestrians, traffic routes etc. Safety barriers may need to be used to segregate the lift from other activities and/or pedestrians.
- Make sure that all loads are checked for security before unloading commences. In the event of a load having moved or become unstable in some way during transport, unloading will not continue until a safe means of unloading has been determined. Unstable loads should not be allowed to tip or fall to the ground unless there are no other safe options & only after a risk assessment has been completed with the Line Manager.
- Agree a sequence of unloading with the delivery driver. All instructions regarding unloading of equipment and materials to come from one nominated person.

Where possible equipment & materials will be pre-slung to facilitate offloading. Edge protection shall be fitted to trailers, or soft landing systems deployed to prevent injury by falls from height. Access to trailers will be from a secured or footed ladder.

Avoid unloading rigs on inclines. The Banksman will position himself forward of the loading process so that all rig movements and the rig operator are clearly visible. NO ONE must be allowed to stand at the side or behind the vehicle being unloaded. All instructions to the rig operator must come from a single Banksman.

The crew shall maintain good housekeeping at all times to reduce slip/trip hazards.

Waste materials will be kept to a minimum & disposed of in accordance with the site's waste management plan.

Fuels will be stored in double-skin fuel bowsters or jerry cans at a designated point agreed by the Main Contractor

Setting Out

Setting out shall be carried out on site by coordination with the site foreman. The engineer shall set out positions on the platform, denoting each position with a setting out pin covered with a mushroom cap, and the pile reference clearly marked.

The sequence will be agreed by the site foreman and carried out prior to piling commencing. Where the engineer is required to take measurements in the vicinity of the rig or concrete pump, this shall be under guidance from the banksmen, and always greater than 5 metres away.

Rigging & de-rigging, attaching & securing augers / casing

The rig will be rigged up in accordance with the manufactures instructions (refer to operators manual).

Working at height to be avoided where possible.


- **Cherry picker (MEWP) – These will be operated by a competent operative wearing a work restraint harness. Plant movements will be controlled by the Banksman. The excavator will lift sections of auger & remain stationary. Excavators will not move whilst cherry pickers are adjacent to the rig. An operative will be at ground level to operate the ground controls in the event of an emergency.*

Rig Operation

The position of each Pile will be set out by OH Piling and referenced with the Pile number prior to drilling. Whilst the mast of the Rig is in a vertical position the tip of the boring tool will be lowered and manoeuvred to be directly into the centre of the relevant Pile location pin

The main contractor is to provide adequate fencing along all boundaries of the site to prevent any spoil risings entering onto the public footpaths, roads or neighbouring Properties

It is to be noted that when working in reduced light the piling rig will operate under task lighting. The main/Principal Contractor should make provisions to provide an adequate boundary fence Main contractor will need to supply the boundary fencing

Title	Combined Method & Risk CFA Piling	
-------	--------------------------------------	--

The banksman will monitor the auger extraction on piles constructed adjacent to the site boundaries, and maintaining an exclusion zone around the machine. This will ensure the only clean augers progress beyond the mechanical auger cleaner during extraction and prevent residual debris falling from height,

CFA method of piling will be used on this project, Continuous Flight Auger piling is a cast in-situ process and piles are constructed using a hollow stem continuous flight auger. The piling rig drills the auger to the required depth, removing the material in the ground, then concrete will be pumped through the hollow stem into the ground to replace the Material that has been removed.

While the concrete is poured the auger is extracted in a forward rotating motion to remove the ground material. Which is continuously removed during the process, this will be removed later by HCPL to a designated stockpile.

When the concreting process is complete and reaches ground level, a steel reinforcement cage is then introduced into the wet concrete.

Any platform disturbances will need to be reinstated correctly by the main contractor to the original specification including any reinforcing membranes and the maintenance sheet of the working platform certificate signed off

If an interruption or blockage in the piling process occurs and the auger needs to be removed, the auger is to be removed by back-screwing slowly to leave as much spoil within the bore as possible and minimise disturbance of surrounding ground

Periodic checks of the piling mat condition are to be made daily to make sure that the attendant excavator has not reduced the thickness whilst clearing up.

HCPL to appoint a 360° excavator in full time attendance for handling waste materials and Pile arisings.

Once the pile has been completed it will be recorded on the Pile record sheet and checked off on the piling schedule.

Concreting

Concrete of the specified mix shall be used to construct the Piles. The concrete will be delivered in ready mix trucks using the designated access routes and will be routed through the site to the concrete pumping station, with a Banksman in attendance at all times.

Prior to concreting, a OH Piling operative will inspect the concrete ticket, ensuring the concrete is of the correct specification.

The concrete will then be visually inspected to confirm its satisfactory condition prior to each discharge into the Holding drum. This stage of the operation will be directly controlled by the OH Piling pumpman and banksman using signals to the concrete wagon driver.

Concrete will be pumped to the rig via a Concrete pumping station setup local to the piling area.

Cube Making & Testing


Concrete cube samples will be taken on site and tested (off-site) in a UKAS accredited laboratory. The frequency of concrete sampling, cube making and testing will be in accordance with the ICE Specification for Piling and Embedded Retaining Walls.

A minimum of four cubes shall be made from each sample. Unless otherwise stated in the Project Specification, a minimum number of samples shall be taken as follows: -

- Each of the first three piles on site
- One sample per shift
- Every 75m³ of concrete cast during the same shift
- At least one sample for each pile requiring concrete of strength class C35/45 or above
- Two additional samples after interruptions of the works longer than 7 days.

One cube shall be tested at an age of 7 days, one at 14days, one at 28days and one at 56 days.

Cubes and sampling; the hazards and risks associated are contained within the concrete pumping Risk Assessment of this document.

Title	Combined Method & Risk CFA Piling	
-------	--------------------------------------	--

Preparation & installation of reinforcing

Reinforcement cages shall be:

Produced on site will be constructed on fabrication trestles by CSCS trained personnel, working within a fabrication area on the piling mat. Subcontract Steel fixers will be required to work to our risk assessments.

Reinforcement will be lifted by the attendant excavator or crane. The weight of reinforcement carried by an excavator shall not exceed 1000Kg. A separate Lift Plan shall be produced where a crane is deployed.

Chains of sufficient capacity will be attached to the excavator's specified lifting eye on the dipper arm by means of a shackle. Lifting accessories must not be wrapped around excavator buckets. Cages shall be transported around site horizontally on two leg chains.

Tag lines will be used where necessary

Chains will be securely attached to the reinforcement cage at the designated lifting point and lifted and placed into the pile. Cages without lifting points will be lifted with the chain or strop choked around the rebar and the helical, or link on the cage.

Operatives who do not hold a Slinger/Signaller card must not sling any loads unless under the direct supervision of a competent Slinger/Signaller.

In the event of crane usage on site for this discipline the following considerations are to apply: -

The chains will be securely attached to the reinforcement cage at the designated lifting points and tag line attached.

Cages without lifting points will be lifted with the chain or strop choked around the rebar and the helical, or link on the cage.

Operatives who do not hold a Slinger/Signaller card must not sling any loads unless under the direct supervision of a competent Slinger/Signaller.

Debonding foam will be placed on the reinforcement cage projection bars if requested and allowed for. OHP cannot be held responsible for debonding foam that slides off the projection bars during the concreting operation.

Debonding foam is placed to ease the breaking down of concrete; concrete will still need to be broken down by hand for at least the final 300mm above cut off level without debonding foam (The use of mechanical crunchers may snap off reinforcement projection bars and fracture the Pile shaft).

When Piling operations have been completed the process shall be repeated at the next Pile position. No Piles will be left open hole, and an exclusion zone must be maintained around recently cast Piles for safety reasons.

Once the Piles have been trimmed to cut-off level, integrity testing may be undertaken.

Throughout the Pile construction process, the appropriate construction and inspection records and activities will be maintained in accordance with the Safety Management System, Works Procedures and the Specification

On Site Fabrication of Augers

On site fabrication of augers etc. shall be carried out in a separate area free from combustible materials. The area shall be surrounded by screens to protect others from arc-eye etc.

Gas cylinders shall be stored securely upright to prevent damage/accidentally being knocked over.


The fabricator shall wear the correct PPE: full face shield, long sleeve flame retardant overalls, leather gauntlets, safety boots and respiratory protection when required.

At least 1 no. 2kg extinguisher in proper working order must be kept in the immediate area of the work and used immediately smoke or smouldering or flames are detected.

The work area must be inspected approximately 60 minutes after the completion of work and immediate steps taken to extinguish any smouldering or flames

Security

Foreman will make sure that adequate measures are taken to prevent the theft or unauthorised use of equipment/materials. This will include locking away all tools in the van or lock up, removing keys from plant & equipment where fitted, when not in use and left unattended & using cab guards if fitted.

Title	Combined Method & Risk CFA Piling	
-------	--------------------------------------	--

Leaving site

The work area shall be left in a clean & tidy manner

The Foreman will make sure that the rig is configured for transport in accordance with the manufacturer's instructions, making sure all securing bolts & pins are correctly fitted and that the rig is safe to transport.

All excessive spoil must be cleaned off the rig, augers and associated plant.

The Foreman shall make sure his Foreman's Completion Form is signed off by the main contractor before leaving site.

Communication and liaison

OH 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 **Harley Cottrell** on a regular routine basis or on specific instances when necessary.

The Manager responsible for this project is **Harley Cottrell**

Site safety tours are carried out at regular intervals by our Safety Dept and Management personnel

Emergency plans

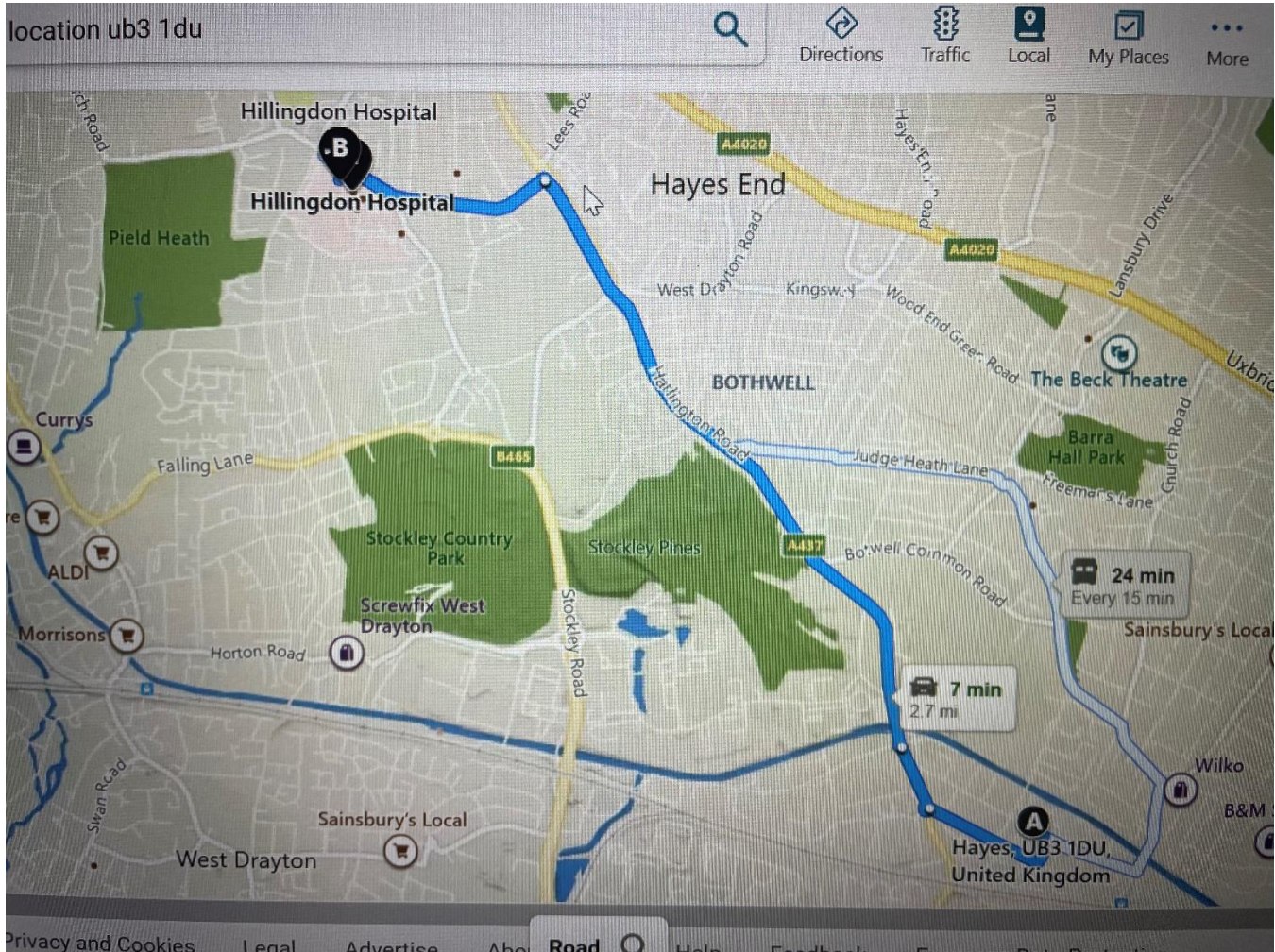
Main contractor will induct all site operatives into the site specific emergency arrangements.

OH crews are equipped with a number of 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 immediately](#) reported directly to the OH **HSQE Dept. on 020 8754 1227**, the main contractor, site manager [and Client](#)



SERVICE STRIKES

Electric - Switch machine off & evacuate all personnel on the ground. The rig operator must remain in the rig. Do not attempt to disengage the cable from the auger. 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

SPILLS

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


Mechanical / structural failure that puts persons at risk

In the event of a failure, stop all operations and if possible bring the machine to a safe condition. Isolate the machine (eg key out) and if possible, set up an exclusion zone.

MEWP Rescue Plan

LONE WORKING SHALL NEVER BE CARRIED OUT. THERE MUST ALWAYS BE A SECOND AUTHORISED PERSON AT GROUND LEVEL THAT IS FAMILIAR WITH THE MEWP'S OPERATIONS

A separate briefing on this emergency plan shall be carried out to ensure that a crew member at ground level can take control of the MEWP.

Title	Combined Method & Risk CFA Piling	
-------	--------------------------------------	--

Emergency Situation	Proposed Action
Failure of basket control functions while elevated	Operator will utilise the auxiliary controls from the platform to lower the boom back down to safety
Failure of basket auxiliary controls	Operative at ground level to use the normal ground controls
Operator in basket is incapacitated	Operative at ground level to use the normal ground controls
Failure of normal ground controls	Operative at ground level to use the emergency auxiliary controls

Suspension Trauma

A Person suspended upright in a harness should work lower body muscles in order to pump blood back up to the heart. Lift legs as high as possible and head as close to the horizontal as possible & frequently push down vigorously with legs to assist circulation. Push against any available footholds to raise body and minimise the body weight.

RESCUERS SHOULD notify emergency services advise of potential suspension trauma. If the suspended person has lost consciousness do not move them to a horizontal position too rapidly. Take 30-40 minutes to move them from kneeling to sitting before placing them in a horizontal position in order that the heart can re-adjust to the increase in blood flow. **NEVER LAY THEM FLAT!** Treat all fall situations as medical emergencies unless rescue is almost immediate.

Covid - 19

Covid-19 is a new illness that can affect your lungs and airways. It is caused by a virus called Coronavirus. Symptoms can be mild, moderate, severe or fatal.

What is COVID-19

Coronavirus disease (COVID-19) is an infectious disease. Most people infected with COVID-19 virus will experience mild to moderate respiratory illness and recover without requiring special treatment. Older people and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease and cancer are more likely to develop the disease.

The best way to slow down and prevent transmission is to be well informed about COVID-19, the disease itself and how it spreads. Protect yourself and others by washing your hands or using an alcohol-based rub frequently and prevent touching your face at all times.


COVID-19 Symptoms

- High Temperature/fever – feeling hot to touch on chest or back
- New, continuous cough – coughing a lot more than an hour or three or more episodes in 24 hours.
- Shortness of breath – change in normal breathing routine
- Loss of taste – no longer taste food or drink
- Loss of smell – no longer smell, may lead to sore/blocked nose

Anyone who feels at risk, concerned for their own health, is experiencing any symptoms listed above and are concerned for their wellbeing and that of their friends and family are to contact Harley Cottrell 07543719232 and are advised to self-isolate, then contact 111 immediately.

All operatives shall:

- Ensure a minimum of 2 meters is kept between any persons at all times

Title	Combined Method & Risk CFA Piling	
-------	--------------------------------------	--

- All operatives are required to carry a safety mask at all times in case the need to wear one arises
- Wash hands at regular intervals for at least 30 seconds
- Monitor their own and others health on site, ensuring any operatives showing symptoms of COVID-19 leave site and isolate for a minimum of 2 weeks
- Ensure correct safety gloves are worn at all times
- Travel to and from work following government guidelines
- For any further advice or information please visit <https://www.nhs.uk/conditions/coronavirus-covid-19/>

Title	Combined Method & Risk CFA Piling	
-------	--------------------------------------	--

RISK ASSESSMENT

Persons Affected: Piling Crew, other contractors on site, members of the public

Significant hazards	Initial risk	Control Measures	Residual risk	Responsibility
Site wide risks	Medium	<ul style="list-style-type: none"> Site visit by contracts. Site induction. Mandatory PPE at all times – safety helmet, high visibility clothing, protective footwear, eye protection, gloves 	Low	All
Contact with underground services	High	<p>Permit to Work to be signed by the Clients senior representative on site or by a senior manager employed by OH prior to any drilling work commencing. In accordance with our Permit to Work System, if for any reason the following cannot be achieved, the office will be notified before work commences.</p> <ul style="list-style-type: none"> Drawings shall be available on site for utility providers The working area and 5 m surrounding the working area has been scanned with Cable Avoidance Tool used by a competent person Any services within the working area and 5 m surrounding have been exposed and their location marked clearly across the whole of the working area Rigs must not be operated within 1000mm of a service (15metres for gas unless client has contacted the service provider and specific instructions issued in writing) Underground Services will always be assumed to be live 	Low	All
Working platform <ul style="list-style-type: none"> Overturning rig or machinery due to poor design, poor installation & maintenance, Removal of obstructions 	High	<ul style="list-style-type: none"> Qualify working platform requirements and responsibilities prior to work commencing. Maintenance of working platform in accordance with the contractual requirements throughout the contract. Correct reinstatement of platform disturbances to the original specification.- OH Foreman not to enter on to piling platform until completed. Foreman to monitor during our operations & report to Main Contractor / OH Manager Any area of a piling platform that has been disturbed will require an additional Working Platform Certificate to be signed off by the Principal Contractor 	Low	Contracts Manager Main Contractor Foreman
<ul style="list-style-type: none"> Rig overturning due to underground collapse / funnelling of non-cohesive or granular materials Concrete Swan neck Connection Failure 	High	<ul style="list-style-type: none"> Use S.I information & previous experience of working in particular areas to establish whether there is an increased risk of underground collapse. Prevent rigs tracking over or drilling down close to fresh piles. Do not leave boreholes open. Avoid repeatedly drilling down and removing the auger from an open bore. Any interruption to the drilling process (eg blockage, obstruction etc) ensure auger is removed by back-screwing slowly to leave as much spoil within the bore as possible and minimise disturbance of surrounding ground. Do not lift augers directly out of the ground. Checks on platform thickness to make sure it hasn't been reduced. Use of a safety connection chain, between the concrete swanneck and Extension Kelly bar, also a stop plate at the top of the reaction pole to avoid the swanneck being able to fall from height if a disconnection happens 	Low	Contracts Manager Foreman
Plant & vehicle movements	High	<ul style="list-style-type: none"> Access routes for lorries will be agreed with the Main Contractor before work commences 	Low	Contracts

Title	Combined Method & Risk CFA Piling	
-------	--------------------------------------	--

<ul style="list-style-type: none"> Obstruction of footpaths at site access and egress points; Other road / site traffic movements, Collision with surrounding structures or plant/equipment during rig movements 	High	<ul style="list-style-type: none"> Site speed restrictions will be adhered to Consideration for room required for maneuvering the machine. Check for obvious hazards such as soft ground, narrow gaps, limited head-room, gradients and excavations 	Low	Driver / Machine operator
		<ul style="list-style-type: none"> All reversing vehicles & rig/plant movements will be directed by a Banksman 		Banksman
Unloading piling rigs <ul style="list-style-type: none"> Damage to road surfaces / pavements Plant or equipment falling from transport vehicle Slips, trips falls <p>Environmental conditions - poor visibility, heavy rain, high winds, snow & ice</p>	High	<ul style="list-style-type: none"> At pre-start meetings, identify what provisions/requirements the MC has, such as dedicated unloading areas, platforms &/or air mats that must be used 	Low	Contracts
		<ul style="list-style-type: none"> Establish suitable safety zone. Warn people not involved in the mobilisation to stay clear. Safety barriers may need to be used to segregate the lift from other activities and/or pedestrians. Vehicle warning beacons will be used in public areas Load/unload on level and stable ground. Check security of loads & agree sequence of unloading. Plant & machinery offloaded by lorry mounted winches shall be secured by swaged ends or Thimbles & bulldog grips with a D-shackle. Open hooks must not be used under any circumstances All loading & unloading will be conducted under the direction of a trained Slinger/Signaller (CPCS) Protection of roadways and footpaths when rig/plant equipment is being loaded/unloaded on the highway. 		Foreman
		<ul style="list-style-type: none"> Trailer posts or kingposts used down the trailer edge to prevent items rolling off. Items that are liable to roll will also be chocked if they do not already have them. Inspect trailer bed for signs of damage or spills to ensure it is safe to walk on. Report missing or damaged equipment / boards on vehicles & trailers. Track mats will be used where there is steel on steel e.g. steel tracks on a steel trailer bed, this will prevent the rig/plant equipment from sliding off the side of the low loader 		Driver
		<ul style="list-style-type: none"> No one will be allowed to stand at the side of the vehicle being loaded/unloaded including the slinger/signaller. The ramp (if fitted) will be used to access the vehicle or trailer. (Access will not be allowed via the side bars) Climbing up the sides of trailers is not permitted. No-one should ever jump onto or off a vehicle – always use steps & handholds. 		All Staff
Fall from Height. <ul style="list-style-type: none"> Whilst accessing trailer. Struck by moving or falling loads 	High	<ul style="list-style-type: none"> Where possible, avoid work at height by using tele-handlers or pre-slinging of loads. Prevent falls by using edge protection fitted to the sides of trailers. Where edge protection is not fitted, minimise injury from falls by the provision of soft landing systems. 	Low	Foreman
		<ul style="list-style-type: none"> Safe access and egress from trailer in the form of a proprietary ladder or step system that forms part of the lorry, or a properly secured ladder. Inspect ladders for signs of damage & be free from mud or grease. Extend ladders past the trailer bed to enable you to step off whilst still having 3 points of contact LOOKING where you're going - DO NOT walk backwards whilst on the trailer. DO NOT RUSH! DO NOT USE A MOBILE PHONE Where possible, the physical unloading should take place without anybody being on the vehicle. When this is unavoidable: <ul style="list-style-type: none"> Keep the number of persons at height a minimum - only those who need access to the vehicle for unloading should be allowed onto it. Ensure that the person on the deck/trailer bed is well out of the way when the load is being lifted. The initial instruction to lift the load must be given by the person on the deck/trailer bed 		All Staff

Title	Combined Method & Risk CFA Piling	
-------	--------------------------------------	--

Rigging & De-Rigging <ul style="list-style-type: none"> Trapping, crushing or significant injury as a result of accidental operation of drill head or mast controlled or uncontrolled movement of auger Fall from height Falling tools and materials Failure of auxiliary winch during operation Suspension Trauma Falls from height & falling objects 	High	<ul style="list-style-type: none"> Trained & competent operatives to be deployed. Rig must have a current 12-monthly Thorough Examination. Certificate must be available on site for inspection. 	Low	Contracts
		<ul style="list-style-type: none"> All non-piling personnel to be kept clear during rigging operations. Exclusion zone to be put in place beforehand. Where possible, working at height will be avoided by drilling down Attending 360 excavator to be used to lift auger sections. The Safe Working Load of the excavator will not be exceeded. 		Foreman
		<ul style="list-style-type: none"> Rig controls will only be activated following clear audible instruction from Slinger/Signaller. Where possible, all rig controls to be isolated during work Safety Devices will not be by-passed, nor be relied upon by the operator. 		Rig Operator
		<ul style="list-style-type: none"> Auger to be held in the gate and remain attached to the excavator whilst the person in the MEWP is in position where they will knock in the pins. Top auger to be held in with split pins. The excavator will remain in position until the person in the MEWP has descended. 		Slinger Signaller
		<ul style="list-style-type: none"> Inspect fall arrest equipment / safety harness before use and used whilst in MEWP. All tools and equipment to be stored safely while climbing and descending. 		Person Climbing
Lorry mounted crane operations <ul style="list-style-type: none"> Overturning of the crane may occur through the following; <ul style="list-style-type: none"> Ground conditions. Tampering with safety devices. Lifting of loads above the Safe Working Limit. Collision with surrounding structure Failure of lifting equipment Damage or injury to passing vehicles & pedestrians by the position of outriggers, crane or load movements or when visibility is restricted 	High	<ul style="list-style-type: none"> All crane movements & lifts will be completed under the direction of a Banksman 	Low	Foreman
		<ul style="list-style-type: none"> The crane, lifting accessories and all safety devices to be inspected daily & the daily check sheet completed. All lifting equipment is subject to a thorough examinations/testing. Fully extended outriggers will be used at all times. Outriggers must not be positioned where the ground could collapse e.g. on soft ground, at the edge of excavations, on or over manholes, etc. Outrigger mats must be placed under outriggers on all lifts. Scaffold boards or other off-cuts of wood found on site are not acceptable alternatives. Where a HIAB has factory-fitted remote controls, these must be used at all times to allow the operator to stand in a position of safety Conduct a test lift to make sure the lift can be carried out safely e.g. to check levels, outriggers don't sink, load is stable etc. No loads will be left suspended. Lifting points on loads shall be checked for signs of damage prior to being lifted. Only recognised slinging techniques will be used; Tag lines will be used when necessary. 		Crane Operator
		<ul style="list-style-type: none"> Crane operator & Slinger signaller to ensure they are aware of the safe working load before the lift commences. Do not overload SWL of crane or lifting accessories Stand clear of side of the vehicle being loaded/unloaded including the slinger/signaller Do not allow the load to swing over or into live traffic lanes or over people Lifting equipment will not be used for towing or pulling 		All Staff
Piling Rigs operation	High	<ul style="list-style-type: none"> Prevent spoil & concrete going beyond the boundary of the site. If public footpaths or parking areas are adjacent to the piling area then additional precautions (watching/divisions/protection) should be employed 	Low	Main contractor

Title	Combined Method & Risk CFA Piling	
-------	--------------------------------------	--

<ul style="list-style-type: none"> • Clearing spoil • Failure of auxiliary winch during operation • Noise • Hit by flying or falling materials • Slips, trips & falls • Open boreholes • Projecting reinforcements • Entanglement with rotating auger • Contact /entanglement with moving parts of rig (eg track) • Inhalation of dusts and exhaust fumes • Fluid / air injection from burst pneumatic hoses 		<ul style="list-style-type: none"> • Rig must have a current Thorough Examination. Certificate must be available on site. • Trained & competent operators of piling rig. (CPCS) Trainees can operate rig under direct supervision of experienced rig operator. • Rigs to be fitted with interlock guards to prevent access to the rotating auger. Guards to extend from 500mm from ground level to 2m. Rigs to operate at slow rotation / inching when gate is opened • Ensure that guard dimensions are considered at planning stage to allow guards to remain in place • Rig inspection on a daily basis before use and during use by the rig operator. Record of inspection to be maintained. Ensure all guards are in place and all emergency stop buttons are functioning correctly. • All rig movements will be completed under the direction of a trained and competent slinger/signaller.(eg CPCS) Mast tilted back as per manufacturer's instructions when tracking around site • Where fitted, hydraulic stabiliser legs to be used at all times when drilling. On soft ground, steel road plate to be used to span the front of the rig including both stabilisers when drilling • Where site specific risk assessment has determined that guards are not practicable a 2metre exclusion zone will be established around the drill head using lightweight barriers. Two trip devices to be positioned 150mm from rotating auger. • Access within the exclusion zone will not be permitted when the auger is rotating. Ensure area is clear before activation of the Auger. No loose clothing to be worn by the Driller or Banksman. • Rig will not be used on gradients steeper than 5 degrees. Ramps should be 1:10 & of solid construction. The width of the ramps should be sufficient for the rig to track safely upon. • Lifting equipment must not be used for towing or pulling • Safety devices must not be by-passed but will not be relied upon by the operator. • Prevent spoil travelling up the auger above head height. Augers must not be rotating when spoil is being removed by shovel. All personnel should be away from the front of the rig when spoil is being removed by an excavator. • Be aware of excavations adjacent to the platform. Ensure they have been protected / secured before approaching with the rig • Where possible site power pack in a well-ventilated area. Provision of ventilation or extraction equipment along with gas monitoring equipment fitted with an audible alarm. Ventilation to be maintained in accordance with the contractual requirements. OH Foreman to monitor during operations & report to Main Contractor / OH Management Team. 		Foreman
		<ul style="list-style-type: none"> • Piling area shall be guarded & policed by the Banksman to ensure that third parties do not injure themselves on freshly completed piles. If necessary, spray pile tops with marker paint upon completion • All non-piling personnel to be kept at least 5metres away from the rig during operations. Ensure area is clear before activation of the auger • All personnel should be away from the front of the rig when spoil is being removed by the excavator • Wire rope/hoist hook will be kept away from the auger when not in use. 		Slinger Signaller
		<ul style="list-style-type: none"> • Personnel on ground to keep clear of rig whilst moving; • Open boreholes to be covered • Noise - All engine covers and panels on the power pack are to be kept closed during operation. Acoustic barriers to be erected in built up confined areas. Operatives to wear ear protection when noise levels are above 85dB(A). Mandatory signs to be displayed • All steel should be placed to ground level whenever possible to minimise trip & piercing hazards. Protect all exposed bars above platform level with protective caps e.g. mushroom caps. 		All staff

Title	Combined Method & Risk CFA Piling	
-------	--------------------------------------	--

		<ul style="list-style-type: none"> Check all hydraulic couplings are secure and all hoses for wear and tear on a daily basis. All hoses in operating area to be fitted with protective covers. Release all pressure and turn off the machine before uncoupling any hydraulic hose. 		
Concrete Pumping (General) <ul style="list-style-type: none"> Burns & irritation from contact with wet concrete Entanglement in moving parts of plant Fall from height when operating mixer drum Manual handling Hit by moving hose Slips, Trips and Falls 	High	<ul style="list-style-type: none"> Inspect all plant & concrete hoses before being used. All damaged equipment shall be returned to the Plant Dept. for repair. Hoses should be moved wherever possible by mechanical means using lifting straps & not with an excavator bucket All machinery will be adequately guarded and where necessary appropriate safety devices will be fitted e.g. emergency stop switches, trip wires etc. The site will be kept clear of trip hazards e.g. concrete hoses kept tidy and away from pedestrian areas Concrete drums shall have appropriate length access ladder maintained in good order leading to work platform surrounded by barriers 	Low	Foreman
		<ul style="list-style-type: none"> Impervious PPE to be worn i.e. gloves, footwear, leggings (Shorts will not be allowed) and arms and legs will be covered. Hoses will be cleaned out thoroughly after use. 		Pump Operator
Hose blockages <ul style="list-style-type: none"> Hose whipping Strike by high pressure water/air/concrete 	High	<p>Prevent blockages by</p> <ul style="list-style-type: none"> Use of smaller size aggregates for last load of concrete for the day. Use of steel pipe to reduce friction and allow concrete to flow easier The length of hose between the pump and rig to be kept as short as possible. Slump testing of all loads to determine volume of water that can be added to maintain a pumpable mix <p>Dealing with blockages correctly</p> <ul style="list-style-type: none"> Stop pumping immediately & release pressure inside the hose as much as possible Operative dealing with blockages to wear goggles or full face visor Treat system as though it is pressurised until confirmed otherwise. Never manually open or attempt to open the hose under pressure. Make sure the blow out valve is not directed at anyone, including yourself. Use gravity to empty as much concrete as possible from the rig & hose. Use mechanical means to free the blockage (eg with excavator bucket or auxiliary winch). Protect people against uncontrolled hoses & ejected concrete with minimum 10metre exclusion zone; Use boarding or the bucket of the excavator to shield against ejected concrete & strap or chain hose to rig or excavator bucket to prevent whipping Compressed air should only be used as a last resort when clearing blockages. 	Medium	Foreman / Pump operator
Cleaning out Hoses <ul style="list-style-type: none"> Hose whipping Strike by high pressure water/air/concrete 	High	<ul style="list-style-type: none"> Wash out adaptor to be fitted with a pressure relief valve and in good working order Pump as much concrete as possible into a specified area. Secure catch basket to the free end of the hose to catch the sponge ball. Pump water through the hose until it is backing up before inserting the ball Confirm all pressure has been released BEFORE opening lines 	Low	Pump operator

Title	Combined Method & Risk CFA Piling	
-------	--------------------------------------	--

Hose bursts <ul style="list-style-type: none"> Injury /property damage from material ejected at high pressure Burns & irritation from contact with wet concrete 	High	<ul style="list-style-type: none"> All hoses should be date-stamped Rig steels & swan neck to be examined during servicing for wear/thinning of walls In high risk areas replace rubber hoses with steel pipes; run the concrete hose through a plastic sleeve i.e. Heave Sleeve (Any concrete ejected during a burst would then be contained.) Position the pump outlet channel away from high risk areas; Use additional bunding to contain spillages & screens to protect from ejected material; Use higher site fencing and if Herras type this must be covered 	Low	Contracts / Foreman
		<ul style="list-style-type: none"> Ensure that hoses don't get kinked and protect them against other site vehicles Daily inspection by crew. Make sure the hoses are in good condition. Check daily for abrasions, deep cuts, damaged steel reinforcement. Also check end collars, couplings and rubber seals for wear. All hoses will be clamped & pinned. Hoses connected to the rig above head height will have secondary protection (whip checks). Seals to be in good condition 		Pump Operator
Attendant excavator - Lifting operations: unloading & setting up concrete pump, drum & cabin, transporting cages, clearing spoil <ul style="list-style-type: none"> Injury due to poor condition of equipment Contact with Collision with overhead cables or surrounding structure. Collision with pedestrian & other plant Competence of operators Driver falling or being thrown from machine Machine overturning due to Unstable ground conditions, overloading when lifting, tampering with safety devices Injury from plant movements. Crushing between the excavator & surrounding structures Restricted visibility Pedestrian struck by falling object (bucket, other attachment or load) due to Failure of lifting equipment, Poor slinging, Lifting of loads above SWL, Poorly maintained, Incorrect equipment Incorrect fitting of Quick Hitch 	High	<ul style="list-style-type: none"> Machine to be operated by trained & competent drivers (eg CPCS) Third party drivers must be inducted into the OH procedures Operatives who do not hold a CPCS Card Slinger/Signaller must not sling any loads unless under the direct supervision of a trained Slinger/Signaller. Use recognised slinging methods All excavator movements will be supervised by a trained and competent Slinger Signaller. Make sure no one (pedestrians/ground workers etc) enters the danger zone while the machine is in operation. Under no circumstances will the machine or lifting accessories be overloaded Use of barriers where a 600mm wide clearance cannot be maintained adjacent to surrounding structures where a person might be trapped Check lifting accessories for signs of damage/wear & that they have current 6-month thorough examination Check lifting points for signs of damage prior to being lifted. Tag lines will be used when necessary Load to be kept as low to ground as possible. long loads to be transported horizontally Loads that are not identified in the lift plan will not be lifted. Confirm that the loads do not exceed the lifting capacity of the machine 	Low	Foreman
		<ul style="list-style-type: none"> Conduct pre-use checks & complete the Daily Inspection Sheet. Do not attempt to operate the machine if faults are found. Attaching & detaching of Quick Hitch devices must always follow the manufacturer's instructions. Safety pins must always be used on semi quick hitch attachments. Passengers must not be carried on excavators. Excavators must not be used to lift people. Always use the seatbelt The machine operator will make sure they know the lift capacity of the machine. Prevent unauthorised use, leave machine in a secure manner when not in use; switch off the engine & place the bucket on the ground. Keys must be removed. All loads to be removed from the hook. 		Machine operator
		<ul style="list-style-type: none"> Do not stand between the body & tracks of the machine Excavators may only be used as a crane if they are equipped to do so. Lifting accessories must only be shackled to a lifting eye. Do not wrap chains around the bucket. Keep loads as low to the ground as possible when tracking around site Loads will not be dragged or snatched; Loads will not be left suspended; The load will not be allowed to swing over or into live traffic lanes or over people. Working below excavator buckets is prohibited 		All Staff

Title	Combined Method & Risk CFA Piling	
-------	--------------------------------------	--

<ul style="list-style-type: none"> Operation by untrained / unauthorised persons 				
Petrol cut-off saws <ul style="list-style-type: none"> Fire, Injury from wheel bursts & kickbacks Contact with rotating wheel or disk, Clothing/hair entanglement with moving parts, Inhalation of dust / fumes, 	High	<ul style="list-style-type: none"> Only authorised and trained operatives to use abrasive wheels. (trained to change abrasive disks) Inspect saw & discs for damage prior to use. Ensure operating speed is indicated. Loose clothing will not be worn by operators; Long hair to be tied back. Stand to one side of saw when cutting – do not stand in line Keep all persons clear of areas where sparks or dust is directed. Shield work area where possible; refuel at least 5 metres from cutting area Users will not use undue pressure and will use the right disc/wheel. Additional PPE: Hearing protection, overalls, goggles, and gloves. The operator will make sure that guards are fitted. Guards will not be removed except for maintenance purposes only 	Low	All staff
Pressure washers <ul style="list-style-type: none"> Direct water jet injuries Electric shock from using damaged equipment or spraying water onto live electrics Risk of being hit by ejected material General health considerations Slips & trips from wet surfaces Risk of injury from kickback during startup Noise risks 	High	<ul style="list-style-type: none"> Complete regular checks for signs of damage. Record on CON15. Do not use a faulty pressure washer. Report any faults that you find to your line manager. Use only hose and accessories rated for pressure higher than the pressure washers' p.s.i. If the engine does not start after two pulls, squeeze trigger of gun to relieve pump pressure. Pull starter cord slowly until resistance is felt. Then pull cord rapidly to avoid kickback and prevent hand arm injury Goggles, waterproof gloves & clothing, safety wellington/boots, and ear defenders when necessary i.e. noise levels 85db and above. Use RPE where necessary Do not use any chemicals in the washer Do not stand in front of the cleaning jet. Hands must not be placed directly in front of the nozzle. Spray will be always directed from self and others. Consider neighbouring properties and windblown spray During operation, only touch the control surfaces e.g. Trigger & insulated areas provided on the Lance. Grip gun/wand firmly with both hands. The operator must not hold onto the hose or fittings. When not in use, relieve pressure by shutting off the engine or electricity supply; turning off water supply, and pulling the trigger until the water stops flowing. Unplug the pressure washer before attempting to clean it. Wand/Lance or hose fittings will not be attached or removed while the system is pressurised. Never leave a pressurised unit unattended Good housekeeping. Keep hoses tidy & clear of walkways. Exclude all non OH persons from area 	Low	Operator
Security <ul style="list-style-type: none"> Unauthorised use of plant by other contractors or trespassers 3rd party damage Theft of plant, equipment and materials 	Medium	<ul style="list-style-type: none"> Reduce risk of theft of plant & equipment. Eg. removing one wheel or fitting wheel clamps, chaining plant equipment to a fixed object; removing batteries, Fitting control arm covers; Lock small tools that are on hire in the property or van or secure store every night Remove keys from plant & equipment when not in use and left unattended. Hydraulic pressure to be relieved on control levers Store materials safely. e.g. pallets of cement stored at one level only to prevent them toppling over if kids climb on them. Diesel bowsers to be locked Where OH are responsible for the site, adequate security fencing and sufficient number of construction/mandatory warning signs will be deployed 	Low	All staff

Title	Combined Method & Risk CFA Piling	
-------	--------------------------------------	--

Refuelling plant & machinery <ul style="list-style-type: none"> Fire & burns Irritation of skin through prolonged contact. Irritation of respiratory tract 	Medium	<ul style="list-style-type: none"> Engines to be switched off prior to refuelling; Re-fuel in well ventilated area. No smoking/no naked flames when refuelling; Mobile phones must not be used. Fire extinguishers to be available in vicinity. Practice good hygiene; Wear impervious gloves. Do not overfill tanks. 	Low	All staff
MEWPS <ul style="list-style-type: none"> Overturning due to overreaching beyond machine limits. Collapse or overturning of machine due to soft, muddy or uneven ground conditions, trenches, obstacles, overloading, etc Overturning due to travelling with basket raised Collision with overhead cables, pedestrians, surrounding structures, other mobile plant & equipment Falls from height & falling objects Adverse weather Misuse by unauthorised personnel. Mechanical failure / emergencies 	High	<ul style="list-style-type: none"> Selection of suitable machine for task with regards to S.W.L, required working height & outreach. Check that a maintenance certificate has been provided by the supplier. Warning signs and barriers where there is a risk of passing vehicles or pedestrians being struck by the platform or falling materials. Platform must have guard rails and toe boards or other suitable barriers fitted; Banksman to direct all movements where visibility is restricted. Instructions required at ground level on how to lower the platform from ground position. Lone working is not permitted. Conduct pre-use checks & complete the daily inspection sheet. Check working area for obvious hazards before starting work. (soft ground, blind corners, narrow gaps, limited head-room, steep gradients and excavations.) Work restraint harness must be worn; Exit & enter basket only when fully lowered. Set MEWP up on firm and level ground. Use stability devices or outriggers if fitted Do not overload platform with equipment or people Positioning of platform immediately alongside to allow operative to reach object without reaching/leaning over handrails. Do not use additional equipment/objects ie ladders, boxes etc to gain extra height/reach if task is beyond reach of platform. MEWPS only to be used as work platforms and not as a means of access to elevated levels or as lifting equipment Do not operate beyond maximum safe wind speed from manufacturer's documents. Inspect before use after severe weather Do not move the equipment with the platform in the raised position unless the equipment is designed to allow this to be done safely (check the manufacturer's instructions). Leave platform in a secure manner and clear of tools and equipment when not in use. 	Low	Contracts Foreman Operator
Steel Fixing <ul style="list-style-type: none"> Slips, trips Lacerations & crush injuries Hands & legs Eye injuries due to flying tie wire; Infections in cuts Falling cages Collapse / overturning of trestles 	Medium	<ul style="list-style-type: none"> The work area and access routes shall be cleared of obstructions and trip hazards. Collect excess tying wire. Trestle tables to be suitably strong and placed on firm level ground; makeshift trestle tables from tied re-bar are not permitted Stack re-bar in approved laydown areas. Use barriers to segregate from other work activities Hard hats, Hi-vis clothing, Eye protection, gloves and steel toe capped boots to be worn at all times. Gloves should offer adequate protection but maintain dexterity Tails on tie wire to be bent over 	Low	Steel Fixers

Title	Combined Method & Risk CFA Piling	
-------	--------------------------------------	--

Fabrication <ul style="list-style-type: none"> • Use of damaged equipment • Injury from falling gas cylinders • Flashbacks • Respiratory problems from inhaling gases, dust & fumes • Fire • Exposure to infra-red or UV radiation; arc eye • Burns from metal splatter • Poor storage • Self-ignition of acetylene by knocking/ dropping cylinder 	High	<ul style="list-style-type: none"> • All equipment must be inspected & maintained. Check for leaks. • Damaged or defective equipment must be removed from service & reported to line manager. • All cylinders must be secured upright & correctly shut off when not in use. Do not drop, roll or drag cylinders • Acetylene cylinders must only be used in an upright position. - Acetylene cylinders that have been laid down must be left upright for minimum 1 hour before use to prevent liquid contents coming through regulator. • When transporting gas cylinders with a forklift truck, make sure that suitable precautions are taken to prevent them from falling— use suitable cradles, slings, clamps or other effective means • Protect cylinders from being struck by other objects. Do not lift cylinders by their valves, shrouds or caps • Flashback arrestors must be installed on the outlets of both regulators, and/or torch inlets. Check valves should be installed on both torch inlets and operating properly • Follow the correct start-up / shut down procedure. If using Acetylene, keep the pressure below 15 pounds. Purge your hoses before lighting the torch. Never light your torch with a mixture of fuel and Oxygen. After purging the line, light the torch with only the fuel gas valve only. • Ensure adequate ventilation to reduce the risk of inhaling harmful fumes. Use air-fed respiratory protective equipment if required. Always use acetylene in a well-ventilated area. Do not take acetylene cylinders into a confined space • Before applying heat, ensure that no residues of hazardous or flammable substances are on the metal; remove all flammable substances from the immediate area. • Fire resisting screens around work area to protect others • A suitable extinguisher must be in close proximity to the working area • Never let oil or grease come into contact with cylinder • All burning must stop 1 hour before end of shift • Wear the appropriate protective clothing welding gauntlets, flame retardant overalls, boots Welding visor or brazier glasses • Never store cylinders near open flames or electrical equipment. 	Low	User
--	------	---	-----	------

Title	Combined Method & Risk CFA Piling	
-------	--------------------------------------	--

COVID - 19 <ul style="list-style-type: none"> Contracting Coronavirus Spreading the virus to others Becoming severely ill Experiencing COVID-19 symptoms 	High	<ul style="list-style-type: none"> Ensure a minimum distance of 2m is kept from all other persons on and off site Travel in separate vehicles when possible Wash/hand sanitise hands frequently (ensuring the 20 second rule is applied) Avoid touching your mouth nose and eyes Ensure exclusion zones are managed and maintained through all required works Ensure correct PPE is worn at all times Ensure all emergency contact details are kept up to date in both the RAMS and on all working sites Only use the welfare facilities when completely necessary and the amount of people using them at the same time to be the minimum All site briefings/conversations to be carried out outside if possible If travelling to work on public transport, a safety mask must be worn If shops are visited, ensure a safety mask is worn Ensure hands are thoroughly washed when arriving and leaving site Operatives must bring own food and drink to limit interaction and discourage the spread of COVID-19 All operatives and site personnel to enter and exit site (via pedestrian gates) at staggered times to ensure 2m social distancing rule is followed 	Low	All operatives/site personnel
---	------	--	-----	-------------------------------------

Title	Combined Method & Risk CFA Piling	
-------	--------------------------------------	--

Task Covered: Installation of piles using readymix concrete or manual grout mixing. Operatives will be exposed daily, and for long periods to cementitious materials.

Hazard	Who is harmed & how?	Initial Risk	Specific Control Measures	Emergency Procedures	Residual Risk
Batched concrete & admixtures Contains various chemicals including lime, calcium silicates and alkalis plus Soluble chromium (VI)	Inhalation can lead to developing acute rhinitis and localised irritation. Risk of chronic respiratory problems. When dry, Respirable Crystalline Silica is a risk via inhalation Contact with skin and eyes can lead to irritation & burning due to the corrosive properties. Prolonged & repeated exposure may also lead to Irritant and allergic dermatitis developing Ingestion – the swallowing of small amounts of concrete products and admixture is unlikely to cause any significant reaction. Larger doses may result in irritation to the gastrointestinal tract, nausea, diarrhoea & vomiting	High	Standard Working Practices Keep exposed skin to a minimum to avoid contact – wear impervious gloves and protective clothing, including overalls with long sleeves and long trousers. Do not allow concrete to become trapped between the skin & clothing All concrete spills must be cleaned up <ul style="list-style-type: none"> Gauntlets must be worn when mixing grout, but do not allow grout/cement to become trapped between the glove and skin. If mixing cement by hand, Wear respiratory protection with minimum standard of FFP3. Must be clean shaven and fit tested Airborne dust should be prevented by only opening bags when needed and by not shaking bags completely empty them 	Standard First Aid measures. Prevent entry into drains and watercourses. Allow to dry before disposing of as hardcore	Low
Mould Release Oil	Not classed as a health hazard however contact with eyes may cause irritation & smarting. May cause discomfort if swallowed. Not considered to be an environmental hazard however contamination of watercourses or the land should be avoided	Medium	Standard Working Practices Keep exposed skin to a minimum to avoid contact – wear impervious gloves Store in well ventilated areas in suitable canisters away from naked lights and heat sources. Use funnels when decanting liquids Storage of containers on drip trays	Toxic fumes will evolve if involved in a fire Only attempt to fight fires if safe to do so. Evacuate if smoke is affecting your breathing, you cannot see the way out, or the fire continues to grow Turn leaking containers leak-side up to prevent further escape. Contain spillages using spill granules, sand or other inert absorbent. Protect drains.	Low
Pump Primer	Slight irritant properties towards the eyes & may lead to redness & stinging. Swallowing of large amounts may result in localised burning	Medium	Standard Working Practices Keep exposed skin to a minimum to avoid contact – wear impervious gloves Use powder mixes in well ventilated areas	Standard First Aid measures	Low

Title	Combined Method & Risk CFA Piling	
-------	--------------------------------------	--

Task Covered: Various tasks related to the on site inspection and basic maintenance of equipment. Includes refuelling, topping up fluids etc . Operatives will be exposed infrequently and for short periods

Hazard	Who is harmed & how?	Initial Risk	Specific Control Measures	Emergency Procedures	Residual Risk
Engine Oil	Fitters can suffer skin irritation from contact with engine oil. (long-term repeated) exposure to used oil may lead to the production of skin tumours. Hot oil may produce irritant fumes	Med	<ul style="list-style-type: none"> Standard Working Practices Do not perform oil change on excessively hot oil Do not breathe in oil mist from hot oil – Ensure good ventilation throughout oil change. No contaminated materials (oily rags) in pockets Storage on drip trays / bunded areas 	Turn leaking containers leak-side up to prevent further escape. Contain spillages using spill granules, sand or other inert absorbent. Protect drains. Once dry, sweep up and transfer to suitable, labelled containers for disposal.	Low
Hydraulic Oil	Not classified as hazardous however can become highly toxic if oil becomes injected into the body In common with most mineral oils, prolonged and repeated skin contact may cause dermatitis.	Med	<ul style="list-style-type: none"> Standard Working Practices Prevention of injection injuries in accordance with hydraulic safety work instruction Avoid generating & breathing in mists No contaminated materials (oily rags) in pockets Storage on drip trays / bunded areas 	Seek immediate medical assistance if hydraulic oil is injected into the body Turn leaking containers leak-side up to prevent further escape. Contain spillages using spill granules, sand or other inert absorbent. Protect drains. Once dry, sweep up and transfer to suitable, labelled containers for disposal.	Low
Grease	Continuous & prolonged exposure to grease may cause skin irritation	Med	<ul style="list-style-type: none"> Standard Working Practices 	Standard First Aid measures.	Low
Petrol	Operator may be harmed if vapours are inhaled. May cause irritation to the respiratory system. Prolonged exposure to vapours may cause drowsiness and narcosis. May cause skin irritation and inflammation; prolonged or repeated contact may result in dermatitis. May also cause cancer.	Med	<ul style="list-style-type: none"> Standard Working Practices Use in well ventilated areas Keep chemicals away from heat sources, open flames & other sources of ignition. 	Ingestion of petrol can lead to unconsciousness. If this occurs, place injured person in recovery position and protect airway. Seek immediate medical attention Turn leaking containers leak-side up to prevent further escape. Use foam extinguisher to smother spills to prevent ignition	Low
Diesel and exhaust fumes	Irritation of your eyes & respiratory tract; headaches and convulsions. Repeated contact with your skin can cause de-fatting & in some cases, dermatitis. Irritation of the mucous membranes, throat and stomach, nausea and vomiting. Liver and kidney damage is possible Continuous exposure to exhaust fumes can cause long term, or chronic, respiratory ill health including cancer. Exhaust fumes in poorly	High	Turn off engines when not required; All re-fuelling to be carried out in well-ventilated areas- preferably outdoors and away from sources of ignition. Store in well ventilated areas away from naked lights & heat sources. Store in bunded bowsters or jerry cans. Drums must be stored upright in a bunded area. Do not allow to enter water supplies or soil.	Standard first aid measures Turn leaking containers leak-side up to prevent further escape. Contain spillages using spill granules, sand or other inert absorbent. Protect drains. Once dry, sweep up and transfer to suitable, labelled containers for disposal CO Poisoning – don't put yourself at risk – make sure the area is ventilated before you enter. get the casualty to fresh air before taking to casualty	Low

Title	Combined Method & Risk CFA Piling	
-------	--------------------------------------	--

	ventilated areas can lead to Carbon Monoxide poisoning		For smaller rigs, locate powerpacks in well ventilated areas. Use mechanical ventilation &/or tail-pipe filters when working in poorly ventilated areas		
Linemarker Spray Paints	Can cause asphyxiation, irritating to the respiratory system, skin and eyes when used in areas with poor ventilation. Repeated & prolonged exposure to the propellant can result in the de-fatting of the skin.	Med	<ul style="list-style-type: none"> Standard Working Practices Pressurised containers - Do not use or store in close proximity to sources of ignition. Wear gloves to prevent paint coming into contact with skin. Ensure good ventilation. Do not inhale aerosol mist 	Burning produces irritating, toxic and obnoxious fumes Only attempt to fight fires if safe to do so. Evacuate if smoke is affecting your breathing, you cannot see the way out, or the fire continues to grow	Low

Standard Working Practices	<p>Good housekeeping to be maintained in all work areas and welfare facilities.</p> <p>Use the welfare provided to dry clothes and change clothes regularly</p> <p>Change out of heavily soiled / contaminated clothing and wash hands & face before eating or drinking</p> <p>Regularly wash the skin with warm water and soap and dry the skin afterwards.</p> <p>Refrain from touching face with soiled hands.</p> <p>Do not eat or smoke in areas where there is likely to be exposure.</p> <p>Cuts or wounds must be covered</p> <p>Apply work creams to exposed skin regularly</p> <p>Wear long-sleeved protective clothing.</p> <p>Wearing impervious vinyl or nitrile gloves when handling chemicals or contaminated equipment</p> <p>Eye protection must be worn at all times.</p> <p>Always store in original containers that are correctly labelled.</p> <p>FOLLOW MANUFACTURERS INSTRUCTIONS</p>
Instruction Information Training & Supervision	<p>All operatives briefed on routes of entry, skin checks and health risks of working with hazardous substances as part of 1-day Safety Awareness training</p> <p>Foremen completed 2-day SSSTS course which covers COSHH</p> <p>All staff briefed on correct fitting of respiratory protection as part of fit test programme</p> <p>Regular toolbox talks delivered on occupational health issues delivered by foreman fitter</p> <p>Copies of Safety Data Sheets kept on file. Instruction given that if a new product is being used, the COSHH assessment will need to be reviewed</p> <p>Regular manager visits carried put to ensure controls are being implemented</p> <p>Instruction given that if the product is being used in a manner different from the way specified, a separate risk assessment will be needed</p>
Exposure limits	<p>Cement has a Workplace Exposure Limits (WEL's) of 10mg/m3 total inhalable dust and 4mg/m3 respirable dust (8 hour TWA)</p> <p>Exposure limits are not exceeded during normal operating conditions & due to the quantities involved at any one time it is unlikely that the limits be exceeded in the event of an accidental release.</p> <p>Previous monitoring of airborne dust identified levels of dust that were significant but were below their respective limits</p>
Health Surveillance	Health screening with occupational nurse covers dermatitis checks & spirometry.

Title	Combined Method & Risk CFA Piling	
-------	--------------------------------------	--

	Safety Awareness training includes instruction to carry out self-checking
Thorough Examination & Testing	Not required. No LEV in operation
Emergency Provisions	Emergency First aid trained personnel present; Eye wash & first aid facilities shall be kept in an easily accessible place. Fire extinguishers (dry powder) maintained and readily accessible Spill granules and absorbent pads readily accessible. Use correct waste stream
Standard First Aid	In all cases should exposure be excessive, or symptoms develop seek medical attention.
	Ingestion - wash mouth / nose out with water and give patient plenty of water to drink. DO NOT induce vomiting. Seek medical attention
	Skin – Remove contaminated clothing as soon as possible and wash with soap and water. If irritation, pain or other skin conditions occur, seek medical advice
	Eyes – Do not rub eyes, remove any contact lenses. Hold the eyes open and wash with emergency eye wash solution (if available) or clean water for up to 15 minutes. Seek medical attention
	Inhalation - Remove casualty from exposure ensuring your own safety whilst doing so. If possible, remove any excess substances from the nasal passages. Keep casualty warm & at rest. Seek medical attention

Title	Combined Method & Risk CFA Piling	
-------	--------------------------------------	--

Manual Handling - Adding & removing auger sections whilst carrying out restricted access piling						
Task involves adding and removing short sections of auger from piling rigs. Mainly covers 300mm and 350mm auger sections up to 1.5metres in length. Augers are positioned close to front of rig before being lifted on top of the auger already drilled into the ground and aligned so that they can be joined. Removing augers is reverse process.					Duration of task	
					Less than 2 hours	4 to 8 hours
					2 to less than 4 hours	Over 8 hours
Load considerations				Notes	Control measures	
Uneven distribution of weight		Bulky / unwieldy	✓	Auger sections weighing up to 80Kg. SWL100 augers are much heavier than different types of auger of similar size 300mm x 1000 = 50kg – 75kg; 300mm x 1500 = 58kg 350mm x 1000 = up to 59kg; 350mm x 1500 = 69kg Wet spoil reduces friction & grip on auger Larger augers than this are lifted by excavator or auxiliary winch	<ul style="list-style-type: none">• Risk reduction at the design / planning stage. Engineers & Contracts staff must take into consideration the moving and handling of augers during the pile design process, & when setting up of contracts. Where possible, manual handling of augers is to be avoided by using excavators or rigs fitted with an auxiliary winch.• Design of piles for restricted access parts of site for example in tight basements, or when piles are tight to walls. to enable smaller augers to be used• Clear communications• Reducing impact on individuals through team lifting. Lift to be controlled by single person• Carry distance kept to a minimum through positioning / storage of augers as close to rig as possible• To reduce bending / stooping, lift top of auger so that auger is vertical rather than horizontal before lifting from floor (but consider dirt getting into joint)• Check stability before lifting. Position hands clear of ends of augers to prevent trapping if hands slip• Gloves to be worn at all times.• Ensure ground is scraped and kept firm & level. Excess spoil must not be allowed to build up in the area around the front of the rig• Ensure task lighting is available and operational. Check for shadow areas for trip hazards.• Completion of manual handling training - use good lifting techniques. Toolbox talks• Health screening including musculoskeletal assessment• Awareness of own limitations	
Unstable / contents likely to shift		Difficult to grasp?	✓			
Intrinsically harmful (sharp/hot)?	✓					
Task considerations						
Holding load away from trunk		Strenuous pushing/pulling	✓	Process can be mechanised however this depends on type of rig, site layout and proximity to existing buildings Use of auxiliary winch still requires moderate / high forces to be exerted to pull auger clear of front of rig before it is lowered to ground. Frequency of handling is affected by programme and rate of drilling. Work is punctuated by frequent breaks during drilling process. No issues with keeping up with the work. Constraints on posture are site specific & depend on site layout and proximity of rig to existing structures Arm movements are frequent with regular pauses with motion patterns repeated 10 times/min or less Head/neck is bent or twisted part of the time; back is bent or twisted part of the time; wrists are bent or deviated part of the time		
Twisting	✓	Repetitive handling				
Stooping	✓	Carrying distances (10m+)	✓			
Reaching above head height		Lifting from floor level	✓			
Frequent/ prolonged physical effort	✓	Large vertical movements				
Work organisation / pace	✓	Force exerted				
Poor coordination, communication & control?	✓	insufficient rest				
Individual factors				Notes		
Unusual strength / height required		Risk to the pregnant?		Requires information on positioning of hands & coordination of movements with machine operators.		
Risk to those with health problems /disability	✓	Requires special information or training?	✓			
Environmental Considerations				Notes		
Slippery ground?	✓	Strong air movements		Increased risk of slips/trips during wet weather if ground conditions deteriorate. This will be affected by quality of main contractor Cold is an issue when working during winter		
Variations in levels? (steps/slopes)		Poor lighting?	✓			
Extreme heat / cold?	✓	Postural constraints				
Uneven ground?	✓	Dust & fumes				

- **Risk reduction at the design / planning stage.**
Engineers & Contracts staff must take into consideration the moving and handling of augers during the pile design process, & when setting up of contracts. Where possible, manual handling of augers is to be avoided by using excavators or rigs fitted with an auxiliary winch.
- Design of piles for restricted access parts of site for example in tight basements, or when piles are tight to walls. to enable smaller augers to be used
- Clear communications
- Reducing impact on individuals through team lifting. Lift to be controlled by single person
- Carry distance kept to a minimum through positioning / storage of augers as close to rig as possible
- To reduce bending / stooping, lift top of auger so that auger is vertical rather than horizontal before lifting from floor (but consider dirt getting into joint)
- Check stability before lifting. Position hands clear of ends of augers to prevent trapping if hands slip
- Gloves to be worn at all times.
- Ensure ground is scraped and kept firm & level. Excess spoil must not be allowed to build up in the area around the front of the rig
- Ensure task lighting is available and operational. Check for shadow areas for trip hazards.
- Completion of manual handling training - use good lifting techniques. Toolbox talks
- Health screening including musculoskeletal assessment
- Awareness of own limitations

Title	Combined Method & Risk CFA Piling	
-------	--------------------------------------	--

Manual Handling - Grout mixing					
Task involves transferring cement bags weighing 25kg bags from pallets onto the grid on top of a grout mixer. Duration & frequency is determined by the grout take of boreholes/mineshafts or the number/design of the piles being installed.				Duration of task	
				Less than 2 hours	4 to 8 hours
				2 to less than 4 hours	Over 8 hours
Load considerations				Notes	Control measures <ul style="list-style-type: none">Walking around pallet to move bags closer to mixer instead of dragging bags across the top of the stock of cement bagsReduce bending / stooping by setting platform so that top of the mixer is at waist height.Stack cement so that the mixer operator does not have to bend or stretch to lift cement bags. ie between waist and chest height at all times, either stacked on pallets or left on telehandler so working height can be adjusted as necessary.Positioning of pallets alongside mixer to prevent twistingRepetitive work broken up by rest periods between batches and changes in activityJob rotation with colleagues. Additional labour for large mixesWhere large volumes require mixing, cement silo can be mobilised but has space constraints.Ensure ground is scraped and kept firm & level.Ensure task lighting is available and operational. Check for shadow areas for trip hazards.Thermal clothing listed on PPE register; welfare facilities by main contractorCompletion of manual handling training - use good lifting techniques. Toolbox talksHealth screening including musculoskeletal assessment
Uneven distribution of weight		Bulky / unwieldy	✓	Bags do not have handholds but are not considered difficult to grasp. Full weight of bag is not taken until they are lifted from stock onto the mixer.	
Unstable / contents likely to shift		Difficult to grasp?			
Intrinsically harmful (sharp/hot)?					
Task considerations				Notes	
Holding load away from trunk		Strenuous pushing/pulling		Frequency of handling is affected by number of piles / boreholes and their grout take. Work is punctuated by frequent short breaks during mixing process. No issues with keeping up with the work	
Twisting	✓	Repetitive handling	✓		
Stooping	✓	Carrying distances (10m+)		Stooping increases as operative is lifting lower layers of cement bags on pallet. Also reaching across the pallet to bring bags closer to them increases risk of overreaching	
Reaching above head height		Lifting from floor level	✓		
Frequent/ prolonged physical effort	✓	Large vertical movements		Arm movements are frequent with regular pauses with motion patterns repeated 10 times/min or less	
Work organisation / pace	✓	Force exerted	✓		
Poor coordination, communication & control?		insufficient rest	✓	Head/neck is bent or twisted part of the time; back is bent or twisted more than half of the time; wrists are bent or deviated part of the time	
Individual factors				Notes	
Unusual strength / height required		Risk to the pregnant?		Ability to function is affected by requirement to wear helmet, eye & ear protection.	
Risk to those with health problems /disability	✓	Requires special information or training?	✓		
Movement affected by PPE	✓			Gauntlets need to be worn to protect against grout burns	
Environmental Considerations				Notes	
Slippery ground?	✓	Strong air movements		Increased risk of slips/trips during wet weather if ground conditions deteriorate. This will be affected by quality of main contractor	
Variations in levels? (steps/slopes)		Poor lighting?	✓		
Extreme heat / cold?	✓	Postural constraints		Cold is an issue when working during winter	
Uneven ground?	✓	Dust & fumes			

Title	Combined Method & Risk CFA Piling	
-------	--------------------------------------	--

Environmental Assessment		Risk rating	Control Measures	Residual risk
Aspect	Impact			
Mobilisation & deliveries	<ul style="list-style-type: none"> HGVs block roads causing delays; potential for noise & disruption to local community particularly during early deliveries to avoid peak traffic; vehicles or plant being transported are not cleaned prior to leaving site then contamination of the highways & surface drains is possible. Fuel consumption & exhaust emissions 	High	<ul style="list-style-type: none"> Considerate driving & parking - large vehicles parked up clear of site and only brought in when vehicle can be accommodated on site Neighbour notifications & planning around busy times Cleaning down plant prior to transport if required Use low emission fuels, ADBLUE. Switching vehicles off when not in use Lodging in hotels close to work area; Use of crew cabs & van sharing instead of each person using their own vehicle 	Low
Piling operations	<ul style="list-style-type: none"> Generation of large volumes of spoil. Likely for some of the spoil to be contaminated, particularly on brownfield / reclaimed land which may need to be treated as hazardous waste 	High	<ul style="list-style-type: none"> Choice of work method to minimise spoil generation; Correct disposal route; Re-use spoil on site provided any contaminant is separated; Ensure type of ground to be encountered on site has been ascertained i.e. contaminated. If contaminated set up safe regime to deal with 	Low
Concrete pumping	<ul style="list-style-type: none"> Large volumes of raw materials to produce concrete Concrete pumping may cause pollution of drains, & watercourses particularly when washing down of wagons and pumps May also be an issue if blockages occur & concrete is ejected across site. Use of water within concrete plant - wetting down mix & cleaning down drum/pump 	High	<ul style="list-style-type: none"> Reduction at design stage; accurate ordering; mix design & site set up to minimise blockages. Careful placing of concrete to avoid unnecessary spills; Positioning equipment away from watercourses; Wash out skips or other bunding away from watercourses and surface water drains. Maintenance of plant & machinery; protection of hoses from damage & containment of hose bursts; Good water connections and hoses in good condition, switch off water supply when not being used Sending excess concrete back to batching plant. Placing in designated area to allow the concrete to cure without polluting the ground or watercourses. 	Low
Mobile plant operations	<ul style="list-style-type: none"> Exhaust emissions; Black smoke if machine is poorly maintained rigs use large volume of fuel during operations Noise & vibration nuisance when working in urban areas, 	Medium	<ul style="list-style-type: none"> Servicing of machinery Reducing noise levels from all plant whenever possible; switching off plant when not in use; All plant will be fitted with efficient silencers; Restricted hours of operation 	Low
Storage & use of fuels & oils	<ul style="list-style-type: none"> Pollution of water courses, drains & sewers through accidental spills, hose bursts and poor storage 	High	<ul style="list-style-type: none"> Store fuel in secure, vandal proof bunded tanks (at least 10m away from watercourses) Carry out refuelling safely & prevent spills. Spill kits are available on site with personnel instructed in their use 	Low
Poor storage & handling waste	<ul style="list-style-type: none"> Waste being mixed or sent to incorrect landfill Leaching into ground and entering drains & watercourses. Damage to plants/animals, unsightly windblown rubbish 	High	<ul style="list-style-type: none"> Segregation of waste & recycling; site waste management plans, use of licensed disposal routes; Provision of suitable waste containers. Housekeeping 	Low
Material Handling	<ul style="list-style-type: none"> Poor handling and storage of materials leading to excess waste to landfill, Materials becoming damaged & unusable; poor stock control 	Medium	<ul style="list-style-type: none"> Order correct amounts of materials; avoid accepting incorrect deliveries; avoid double handling; Re-use/recycling materials, segregation of waste 	Low

Title	Combined Method & Risk CFA Piling	
-------	--------------------------------------	--

Lifting Equipment	Configuration	Ground Bearings	Boom Length	S.W.L
Lorry Mounted Crane	Set up on fully extended outriggers placed on ; 450mm square pads	~20Tonne/m ²	11m max	Minimum 5000kg @ 5metres
13 Tonne Excavator	Excavators must be fitted with a suitable lift point on the boom with min. 5T shackle. Excavators should have a rated object handling capacity table available inside the cab Excavators must have a current Thorough Examination certificate Machine operators must be competent to undertake lifting operations	<10Tonne/m ²	N/A	Require info from principal contractor
Piling Rig	As per manufacturers instructions; mast vertical, foot down; near vertical lifting only. (max 25°)	As per spec sheet	N/A	Minimum 3000kg

Description of Load		Weight	Centre of Gravity	Method of Lifting / No. & Position of lift points	Lifting Gear Required
Standard agitator		5000kg	Uniform	4 lift points on chassis	6.5T 4-leg chain
Large agitator		8000Kg	Uniform	4 lift points on chassis	4No. 5T webbing straps
Concrete Pump		3000kg	Uniform	Single point on top	4.25T twin leg
Site Cabin		4000kg	Uniform	4 lift points, pre-slung	6.5T 4-leg chain
Diesel Cube (Full)		1200Kg	Uniform	Lift points on top	4.25T twin leg
Jet wash		<200kg	Uniform	No lift points. Choke	3.15T twin leg
Compressor		<500Kg	Uneven	Lift points on top	3.15T single leg
Concrete Hose		10kg/m	Uniform	No lift points; Choke	3.15T twin leg
Casings	340mm	130kg/m	Uniform	No lift points. Attach clamps on opposite sides of casing	2 no. lift clamps; 3.15T twin leg
	408mm	154Kg/m	Uniform		
	508mm	200Kg/m	Uniform		
	660mm	Kg/m	Uniform		
Augers	300mm Ø x 1metre	84kg	Uniform	No lift points; Augers are lifted with a lifting dolly secured by a single leg drop chain to the lifting point on the attendant excavator or choke between flights Chains must hang vertically during lifting to prevent damage	4.25T twin leg for offloading 3.15T single leg for rigging Auger dolly
	450mm Ø x 1metre	110Kg	Uniform		
	600mm Ø x 1metre	130Kg	Uniform		
Cage (single)		Max 1000Kg	Long, flimsy	1. Lift horizontally when transporting around site with twin leg chain hooked in line, or choked.	4.25T twin leg
Cage (bundle)		Max 1000Kg	Long, flimsy	2. Lift vertically with single leg chain secured around rebar / helicoil joint.	3.15T single leg

Title	Combined Method & Risk CFA Piling	
-------	--------------------------------------	--

ROTARY RIG GUARDING RISK ASSESSMENT

Initial Assessment completed by:_____ Date:_____ Briefed to:_____

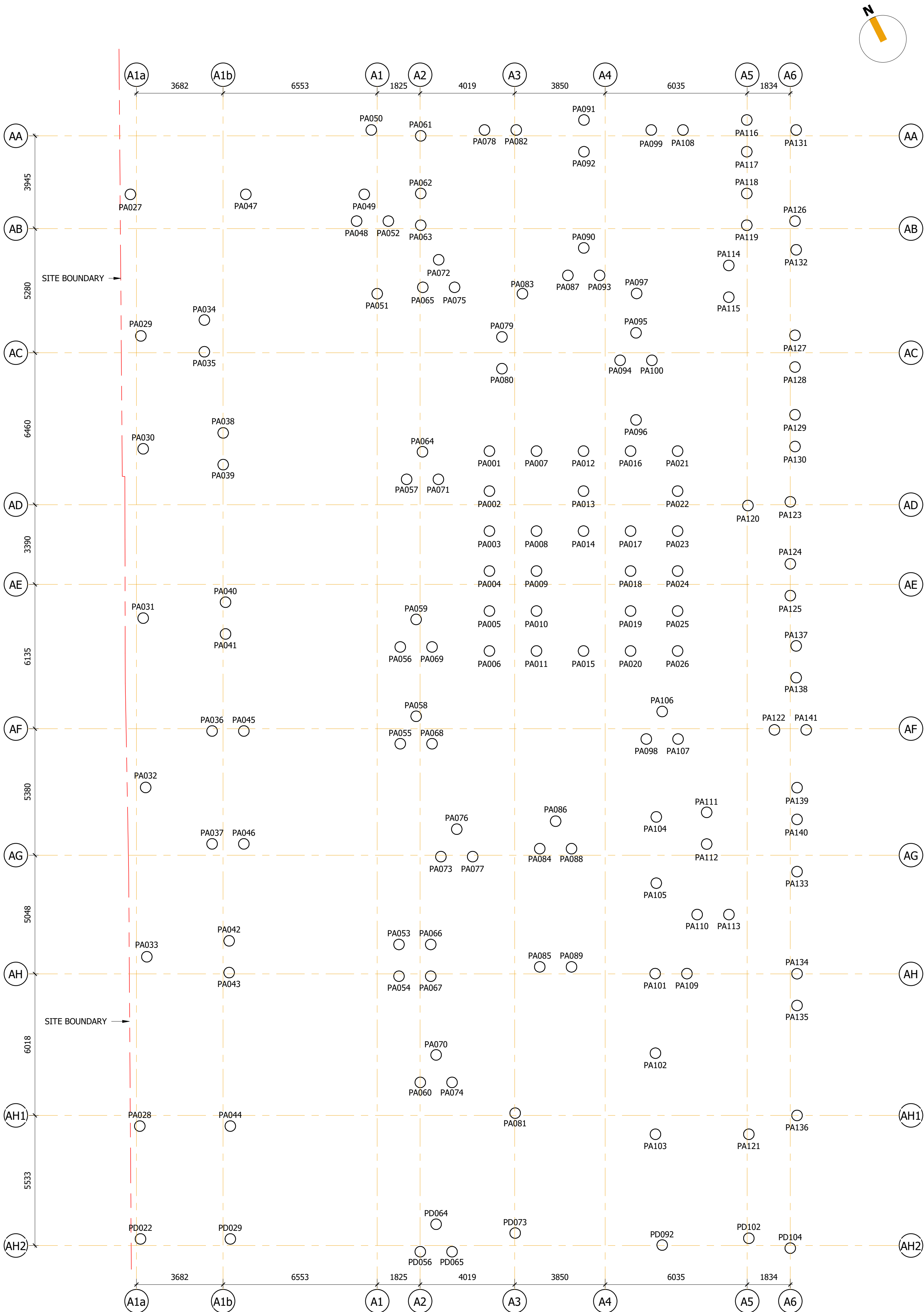
Identify all Pile/Borehole position(s) where interlock guards are NOT practicable:

Pile / Borehole position(s)	Give reason why Interlock Guards cannot be fitted	Identify the control measures to be implemented

Ongoing Assessment by:_____

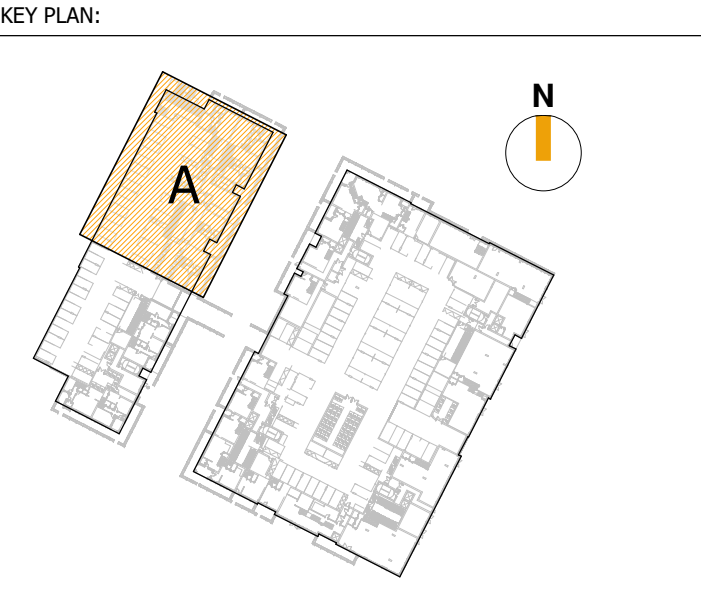
Where site conditions dictate that the standard of guarding (above) cannot be achieved, the foreman shall notify their Contracts Manager & agree any changes to the risk assessment. All site operatives shall be briefed on the new arrangements.

Pile / Borehole position(s)	Give reason for change to standard of guarding	Identify the control measures to be implemented	Changes agreed with	Date



ALLOW FOR 700mm DEEP PILING PLATFORM TO FOOTPRINT OF THE NEW BUILDING PLUS 1m. PLATFORM TO BE FORMED OF 6/2 GRADED GRANULAR MATERIAL WITH GEOTEXTILE LAYER TO BASE.

- NOTES:
- ALL DIMENSIONS ARE IN MILLIMETERS (mm). ALL LEVELS ARE IN METRES.
 - DO NOT SCALE THIS DRAWING. WORK TO FIGURED DIMENSIONS ONLY.
 - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS AND SPECIALISTS DRAWINGS, THE SPECIFICATION AND THE CONTRACT DOCUMENTS.
 - ALL WORK IS TO COMPLY WITH THE RELEVANT EUROCODES, CODES OF PRACTICE AND THE BUILDING REGULATIONS.
 - ALL DIMENSIONS ARE TO BE VERIFIED BY CONTRACTOR ON SITE. ALL DISCREPANCIES SHOULD BE REPORTED TO THE ENGINEER PRIOR TO COMMENCEMENT OF THE WORKS.
 - ALL CONCRETE TO BE GRADE C32/40 UNLESS NOTED OTHERWISE. ALL COLUMNS TO BE C50/60 U.N.O.
 - NO CHASING OF CONCRETE WILL BE PERMITTED.
 - CONTRACTOR TO ALLOW FOR CO-ORDINATION OF BUILDERSWORK REQUIREMENTS FOR SERVICES SO THAT HOLES, SLEEVES ETC. CAN BE CAST INTO ALL NEW CONCRETE WORK. NO POST DRILLING OF CONCRETE FOR SERVICE HOLES GREATER THAN 20mm WILL BE PERMITTED.
 - CONCRETE IN CONTACT WITH GROUND TO BE DESIGNED FOR GROUND SULPHATE CLASS DC-2 AC-2.
 - TYPICALLY TOP OF CAP IS EQUAL TO TOP OF SLAB U.N.O.
 - ALL CAPS ORTHOGONAL TO GRIDLINES U.N.O.
 - COLUMNS TO BE CENTRAL ON PILECAPS UNLESS NOTED OTHERWISE.
 - ALL PILES ASSUMED TO BE CFA. TO BE CONFIRMED BY CONTRACTOR.
 - FOR GENERAL NOTES REFER TO DRAWING: JR006098-1SS-XX-ZZ-SP-S-7000



T02	09.09.22	GE/AW	ISSUED FOR TENDER
T01	27.05.22	GE/AW	ISSUED FOR TENDER
P01	16.08.21	RMA/AW	PRELIMINARY ISSUE
REV	DATE	DRAWN/CHK	REVISION INFO

STATUS:

TENDER

CLIENT:

GREYSTAR

PROJECT:

CROWN TRADING CENTRE,
HAYES, UB3 1DU

DRAWING TITLE:

PROPOSED PILE LAYOUT. BLOCK A

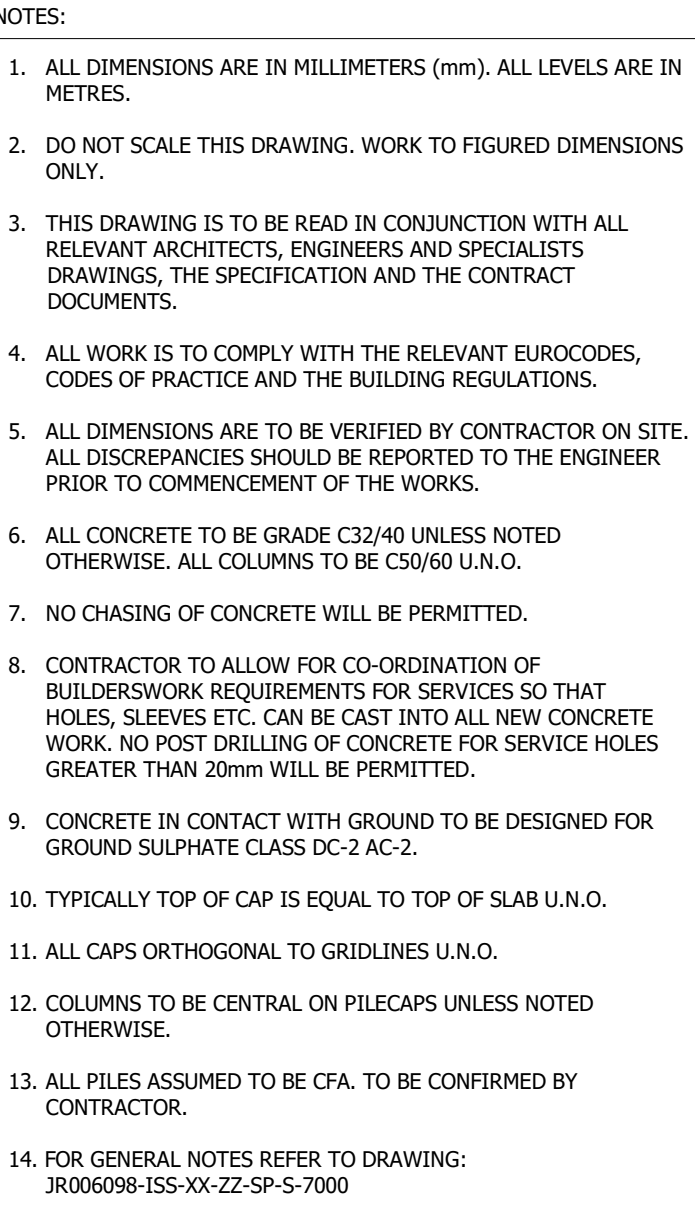
JOB NUMBER: SE1560 SCALE AT A1: 1:100 REV. STATUS: D2

DRAWING NUMBER: JR006098-1SS-A0-B2-DR-S-0951 T02

LONDON 20 IRONMONGER LANE | LONDON | EC2V 8EP | UK
T: +44 (0)207 600 2912

BRISTOL 89-95 REDCLIFFE STREET | BRISTOL | BS1 6LU | UK
T: +44 (0)117 922 7039

www.iesisgroup.com



- ALLOW FOR 700mm DEEP PILING PLATFORM TO FOOTPRINT OF THE NEW BUILDING PLUS 1m. PLATFORM TO BE FORMED OF 6F2 GRADED GRANULAR MATERIAL WITH GEOTEXTILE LAYER TO BASE.
- NUMBER OF TOWER CRANES TO BE CONFIRMED BY CONTRACTOR. ALLOW FOR 8 no. PILES PER CRANE AND 6m x 6m x 1.5m DEEP CRANE BASE, LOCATIONS T.B.C.

TENDER

PROJECT:
CROWN TRADING CENTRE,
HAYES, UB3 1DU

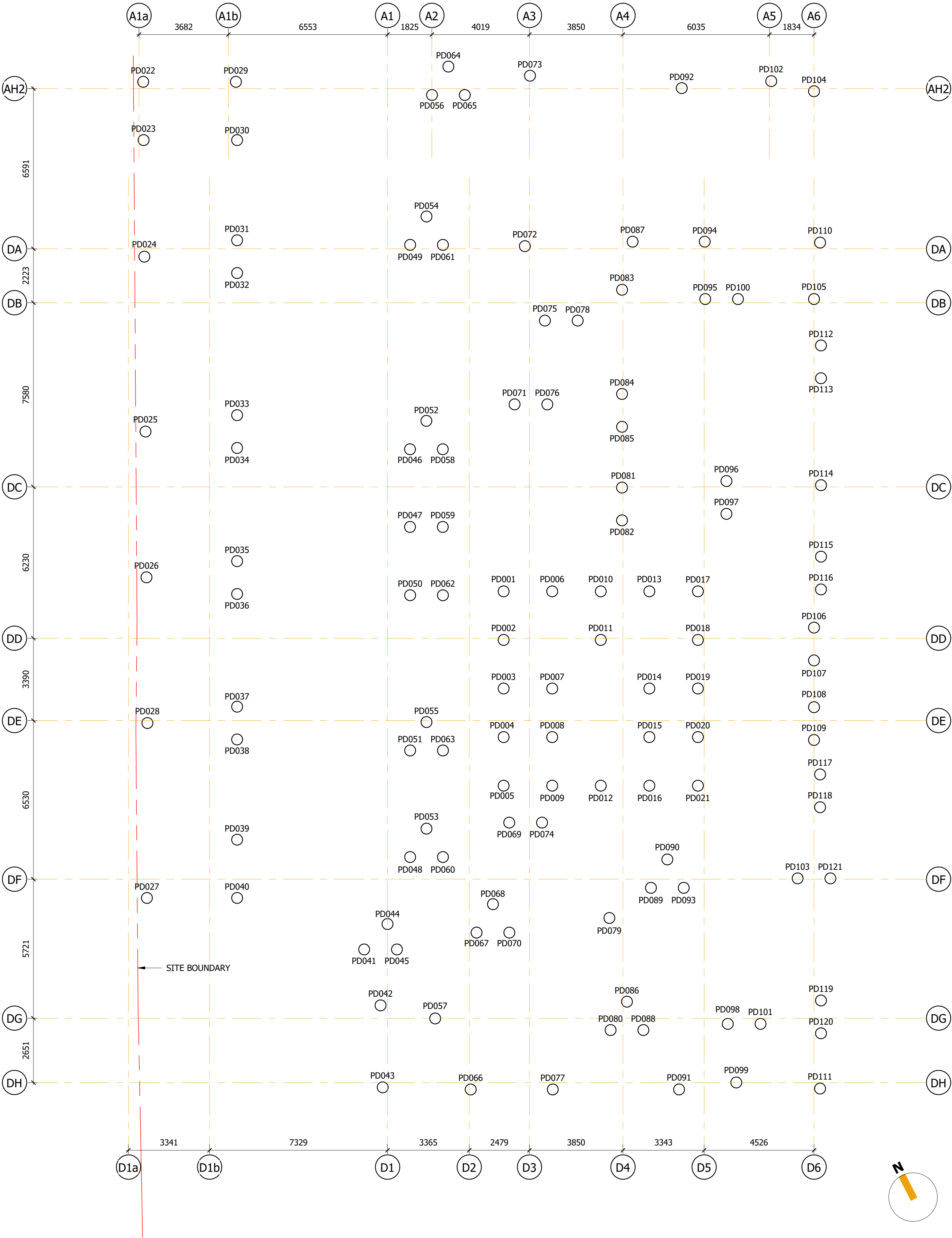
DRAWING TITLE:

PROPOSED PILE LAYOUT - BLOCKS
B & C

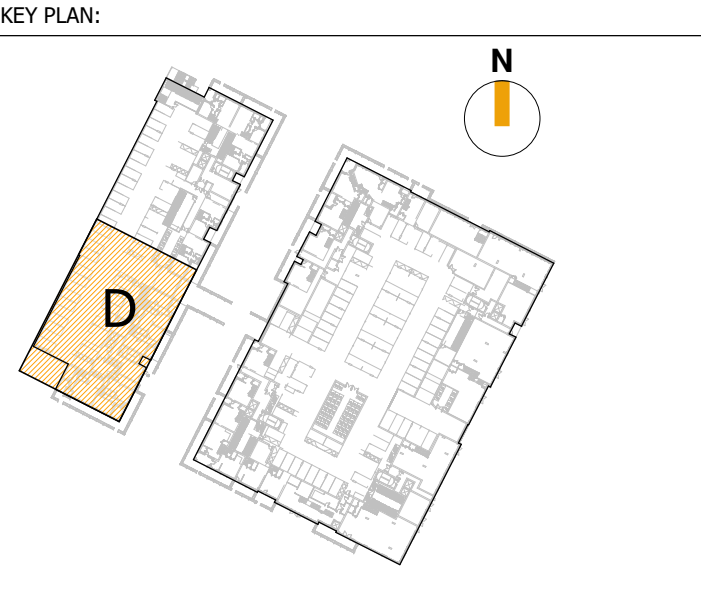
JOB NUMBER:	SCALE AT A1:	REV. STATUS:
SE1560	1:100	D2

LONDON 20 IRONMONGER LANE | LONDON | EC2V 8EP | UK
T: +44 (0)207 600 2912

BRISTOL 89-95 REDCLIFFE STREET | BRISTOL | BS1 6LU | UK
T: +44 (0)117 922 7039



- NOTES:
- ALL DIMENSIONS ARE IN MILLIMETERS (mm). ALL LEVELS ARE IN METRES.
 - DO NOT SCALE THIS DRAWING. WORK TO FIGURED DIMENSIONS ONLY.
 - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS AND SPECIALISTS DRAWINGS, THE SPECIFICATION AND THE CONTRACT DOCUMENTS.
 - ALL WORK IS TO COMPLY WITH THE RELEVANT EUROCODES, CODES OF PRACTICE AND THE BUILDING REGULATIONS.
 - ALL DIMENSIONS ARE TO BE VERIFIED BY CONTRACTOR ON SITE. ALL DISCREPANCIES SHOULD BE REPORTED TO THE ENGINEER PRIOR TO COMMENCEMENT OF THE WORKS.
 - ALL CONCRETE TO BE GRADE C32/40 UNLESS NOTED OTHERWISE. ALL COLUMNS TO BE C50/60 U.N.O.
 - NO CHASING OF CONCRETE WILL BE PERMITTED.
 - CONTRACTOR TO ALLOW FOR CO-ORDINATION OF BUILDERSWORK REQUIREMENTS FOR SERVICES SO THAT HOLES, SLEEVES ETC. CAN BE CAST INTO ALL NEW CONCRETE WORK. NO POST DRILLING OF CONCRETE FOR SERVICE HOLES GREATER THAN 20mm WILL BE PERMITTED.
 - CONCRETE IN CONTACT WITH GROUND TO BE DESIGNED FOR GROUND SULPHATE CLASS DC-2 AC-2.
 - TYPICALLY TOP OF CAP IS EQUAL TO TOP OF SLAB U.N.O.
 - ALL CAPS ORTHOGONAL TO GRIDLINES U.N.O.
 - COLUMNS TO BE CENTRAL ON PILECAPS UNLESS NOTED OTHERWISE.
 - ALL PILES ASSUMED TO BE CFA. TO BE CONFIRMED BY CONTRACTOR.
 - FOR GENERAL NOTES REFER TO DRAWING: JR006098-1SS-XX-ZZ-SP-S-7000



T02	09.09.22	GE/AW	ISSUED FOR TENDER
T01	27.05.22	GE/AW	ISSUED FOR TENDER
P01	16.08.21	RMA/AW	PRELIMINARY ISSUE
REV	DATE	DRAWN/CHK	REVISION INFO

STATUS: **TENDER**

CLIENT: **GREYSTAR**

PROJECT: **CROWN TRADING CENTRE, HAYES, UB3 1DU**

DRAWING TITLE: **PROPOSED PILE LAYOUT. BLOCK D**

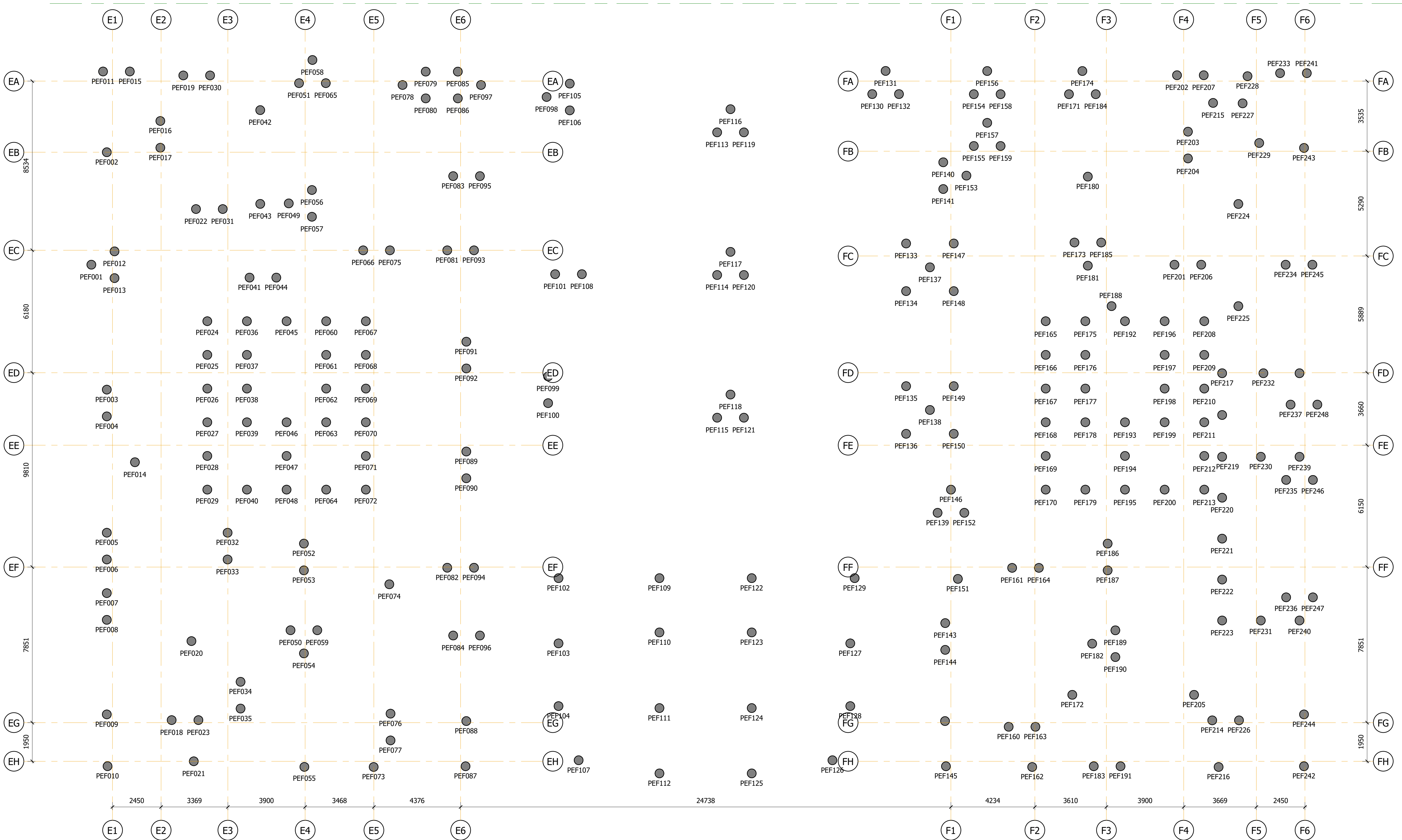
JOB NUMBER: **SE1560** SCALE AT A1: **1:100** REV. STATUS: **D2**

DRAWING NUMBER: **JR006098-1SS-D0-B2-DR-S-0954** REVISION: **T02**

LONDON 20 IRONMONGER LANE | LONDON | EC2V 8EP | UK
T: +44 (0)207 600 2912
BRISTOL 89-95 REDCLIFFE STREET | BRISTOL | BS1 6LU | UK
T: +44 (0)117 922 7039

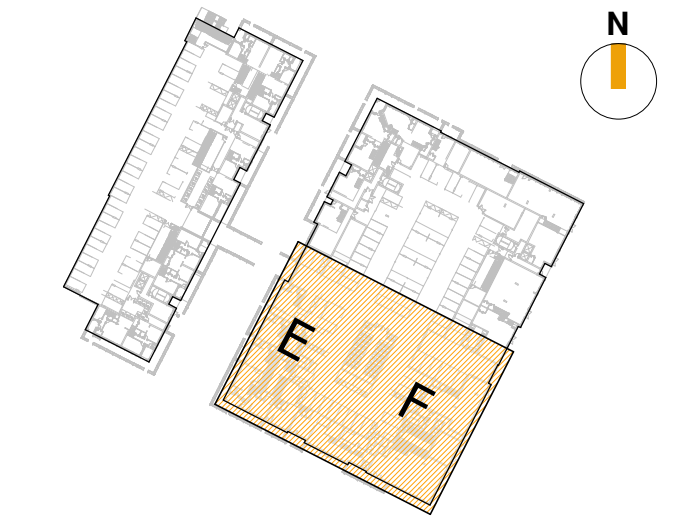
www.iesisgroup.com

ALLOW FOR 700mm DEEP PILING PLATFORM TO FOOTPRINT OF THE NEW BUILDING PLUS 1m. PLATFORM TO BE FORMED OF 6F2 GRADED GRANULAR MATERIAL WITH GEOTEXTILE LAYER TO BASE.



- NOTES:
- ALL DIMENSIONS ARE IN MILLIMETERS (mm). ALL LEVELS ARE IN METRES.
 - DO NOT SCALE THIS DRAWING. WORK TO FIGURED DIMENSIONS ONLY.
 - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS AND SPECIALISTS DRAWINGS, THE SPECIFICATION AND THE CONTRACT DOCUMENTS.
 - ALL WORK IS TO COMPLY WITH THE RELEVANT EUROCODES, CODES OF PRACTICE AND THE BUILDING REGULATIONS.
 - ALL DIMENSIONS ARE TO BE VERIFIED BY CONTRACTOR ON SITE. ALL DISCREPANCIES SHOULD BE REPORTED TO THE ENGINEER PRIOR TO COMMENCEMENT OF THE WORKS.
 - ALL CONCRETE TO BE GRADE C32/40 UNLESS NOTED OTHERWISE. ALL COLUMNS TO BE C50/60 U.N.O.
 - NO CHASING OF CONCRETE WILL BE PERMITTED.
 - CONTRACTOR TO ALLOW FOR CO-ORDINATION OF BUILDERSWORK REQUIREMENTS FOR SERVICES SO THAT HOLES, SLEEVES ETC. CAN BE CAST INTO ALL NEW CONCRETE WORK. NO POST DRILLING OF CONCRETE FOR SERVICE HOLES GREATER THAN 20mm WILL BE PERMITTED.
 - CONCRETE IN CONTACT WITH GROUND TO BE DESIGNED FOR GROUND SULPHATE CLASS DC-2 AC-2.
 - TYPICALLY TOP OF CAP IS EQUAL TO TOP OF SLAB U.N.O.
 - ALL CAPS ORTHOGONAL TO GRIDLINES U.N.O.
 - COLUMNS TO BE CENTRAL ON PILECAPS UNLESS NOTED OTHERWISE.
 - ALL PILES ASSUMED TO BE CFA. TO BE CONFIRMED BY CONTRACTOR.
 - FOR GENERAL NOTES REFER TO DRAWING: JR006098-ISS-XX-ZZ-SP-S-7000

KEY PLAN:



- ALLOW FOR 700mm DEEP PILING PLATFORM TO FOOTPRINT OF THE NEW BUILDING PLUS 1m. PLATFORM TO BE FORMED OF 6F2 GRADED GRANULAR MATERIAL WITH GEOTEXTILE LAYER TO BASE.
- NUMBER OF TOWER CRANES TO BE CONFIRMED BY CONTRACTOR. ALLOW FOR 8 no. PILES PER CRANE AND 6m x 6m x 1.5m DEEP CRANE BASE, LOCATIONS T.B.C.

T01	27.05.22	RMA/AW	ISSUED FOR TENDER
P01	16.08.21	GE/AW	ISSUED FOR INFORMATION
REV	DATE	DRAWN/CHK	REVISION INFO

STATUS:

TENDER

CLIENT:

GREYSTAR

PROJECT:

**CROWN TRADING CENTRE,
HAYES, UB3 1DU**

DRAWING TITLE:

**PROPOSED PILE LAYOUT - BLOCKS
E & F**

JOB NUMBER:	SCALE AT A1:	REV. STATUS:
SE1560	1:100	D2

DRAWING NUMBER:	REVISION:
JR006098-ISS-EF-B2-DR-S-0953	T01

LONDON	20 IRONMONGER LANE LONDON EC2V 8EP UK T: +44 (0)207 600 2912
BRISTOL	89-95 REDCLIFFE STREET BRISTOL BS1 6LU UK T: +44 (0)117 922 7039

www.iesisgroup.com