Site: Parliament Hill School, Sports Hall & Teaching Block, Camden, London,
Job No.175168, Revision No.

COMBINED METHOD & RISK FOR CFA PILING

VAN ELLE
TOTAL FOUNDATION SOLUTIONS

Division	Eastern			
Project/task	Construction of Continuous Flight Auger Piles			
Client	Farrans			
VE contacts	Contracts Manager	Daniel Wilson	Tel No.	01362 697097
	Foreman	Lee Finch	Tel No.	07720 200139
	H&S Dept	Gary Levers	Tel No.	01773 580580

Revision Status

Initial	Name	Position	Date	Signature
Prepared by:	Robert Elcoke	(VE) Estimator & Contracts Engineer	19-02-2018	
Reviewed by:	Daniel Wilson	(VE) Senior Contracts Manager	19-02-2018	
Client Acknowledgement by:				

Rev No.	Revised by	Date:	Amendments

EMERGENCY CONTACT DETAILS	
Gas	0800 111 999
Electricity	0800 404 090

The Location of the site is: Sports Hall & Teaching Block,
Parliament Hill School, Highgate Road, Camden, London, NW5 1RL

The nearest hospital is: The Whittington Health, Magdala Avenue, London, W19 5NF (0207 272 3070)

Dynamic Risk Assessment

Complete at the place of work, **before** you start

↓

Answer the **"Before You Start"** questions

↓

Review the **"Hazards"** list

↓

Are the Hazards adequately controlled?

→ **No** → **STOP WORK** → Inform your Line Manager. Agree a Safe System of Work

↓ **Yes**

All team members briefed and signed onto the risk assessment

↓

Start work. Keep checking for new hazards

Before You Start	
1	Do you have a risk assessment, method statement or work instruction covering the task?
2	Does everyone have the correct PPE?
3	Do you have the correct tools / equipment, in good condition & PAT tested if appropriate?
4	Are other people (including the public) protected from your work?
5	Are health risks such as dust, noise, HAVS, and manual handling controlled?
6	Do you have serviceable fire extinguisher(s), first aid kit and spill kit?
7	Do you know who your 1st Aider is?
8	Do you have safe access and egress for pedestrians and machines?
9	Does everyone have the necessary competences to complete the task?
10	Have measures been put in place to protect the environment from pollution etc?
11	Are all the necessary Permits to Work in place?
12	Do you have copies of all relevant (and current) plans / drawings?

Are these Hazards / Risks present & NOT controlled	
1	Falls from height
2	Falling or flying objects
3	Chemicals or harmful substances
4	Heat, fire or explosion
5	Work near water
6	Risk to plant / property
7	Contact with stationary object
8	Object overturning or collapsing
9	Slips, trips or falls on the same level
10	Entry into a confined space
11	Dust / Fumes / Vapours
12	Deep Excavations (>1.2metres)
13	Noise / Vibration
14	Poor ground conditions
15	Electricity

Are these Hazards / Risks present & NOT controlled	
16	Poor storage / housekeeping
17	Underground / Overhead Services
18	Manual handling
19	Poor lighting
20	Temperature (High / Low)
21	Adverse weather (high winds, ice, snow)
22	Defective or uncertified equipment
23	Risk to you from the work of others
24	Risk to others / public from your work
25	Stored energy
26	Moving plant or vehicles
27	Security
28	Temporary works
29	Other (state)
30	Training / Supervision

BRIEFING SHEET

Site: Parliament Hill School, Sports Hall & Teaching Block, Camden, London,
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This method statement **MUST BE** briefed as part of the pre start briefing. The Divisional Director is responsible for ensuring this is done. The foreman shall brief all site operatives and sub contractors on site before commencing work. Everyone must sign off on the briefing sheet to confirm that they have been briefed and that they understand the risks and controls, and their responsibilities.

Where work cannot be carried out in accordance with this method statement, the foreman shall stop work & discuss any concerns with his Manager & await further instruction. All parties shall then be briefed on any changes to the method of work.

	Name	Signature	Date
Initial Briefing *By signing this method statement, I confirm that I have been briefed on its contents and understand my responsibilities detailed within.* *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 Van Elle's H&S Dept.* *I understand that mobile phones, mp3 players, or other personal entertainment items must not be used in operational areas.* *Machines must be brought to a halt before calls are taken.*			
Details of amendments			

	**Make sure the Permit to Work is signed before starting work**		**Be briefed & signed off on the method statement for the work**
	**Wear the correct PPE**		**Use a banksman for plant movements**
	**Maintain exclusion zones around machinery**		**Clear up spills promptly**
	**Choose the correct lifting equipment**		**Protect the environment**

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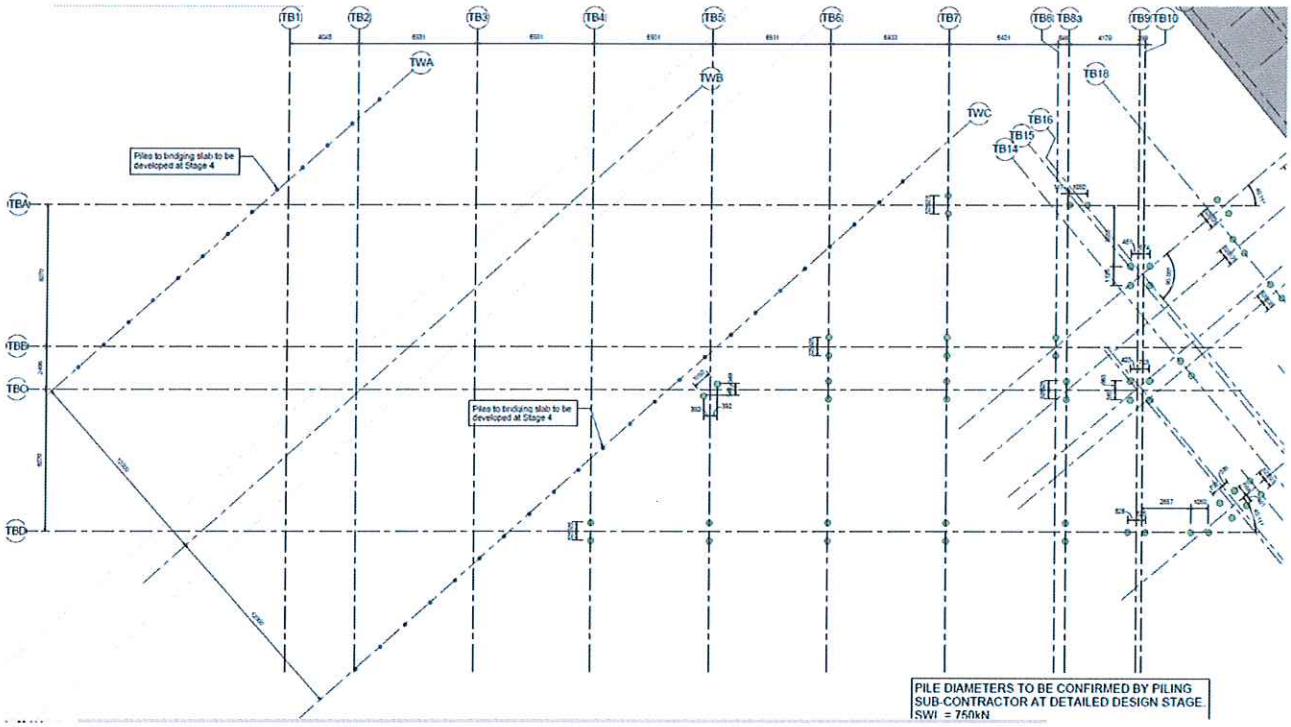
1. **Scope of Works**

Works are being undertaken within the school grounds. Delivery restrictions apply and deliveries are to take place between 9.30am and 3pm as stated in the tender documents. It has been agreed that concrete deliveries can differ from these hours and lorries may enter site from 7am. They are to discharge their loads and leave site prior to 7.30am.

To install 110No.450mm Continuous Flight Auger Piles with depths up to 23.75m piles.
Piles are to be formed with C30/37 Class DC-4 concrete and reinforced with up to 8H20 cage x 6.5m (varies, refer to calculations)

A Thames Water main is present on site as detailed within the drawing below, 42No.750mm Continuous Flight Auger Piles are to be installed, with depths up to 26.5m, these Piles are to be reinforced with 11B16 x 10.5m.

All Piles within the scope of works are to be concreted using C30/37, Class DC-4 Concrete with a target slump of 180mm. 4No.Concrete test cubes will be made each day and will be tested at intervals of 7,14,28 & 56 days.



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Rig	Commencement Date	Approx duration of works
Llamada P140	w/c 19-02-2018	3 -4 Weeks
Trailer Mounted Concrete Pump		
Concrete Holding Drum		
Pressure Washer		

2. Method of work and control measures

2.1 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

Piling Foreman / Supervisor	SSSTS / NVQ3
Piling Rig Operator	CPCS / NVQ Piling Operations
Banksman	CPCS / NPORS Slinger Signaller
Concrete Pump Operative	CPCS Trailer Mounted Concrete Pump
Excavator Driver	CPCS Excavator 360º

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 (SET33) 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 Van Elle Permit to Work (SET16) 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 and sign off CON8 Contract Notes
- Ensure that sufficient PPE provisions are available & that it is worn in accordance with Van Elle & Main Contractor requirements. Mandatory PPE is safety helmet, safety footwear, light eye protection and & hi-viz clothing. Other PPE 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 on CON1. 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. SET6 Excavator Induction Checklist to be completed.
- Ensure that the Permit to Work (SET16) is signed prior to work commencing, and thereafter on a WEEKLY basis.
- The Van Elle Permit & WPC must be signed before erecting the rig

2.2 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

Work in accordance with **VE Work Instruction for accessing and offloading trailers.** 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 bowsers or jerry cans at a designated point agreed by the Main Contractor

2.3 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.

2.4 Rigging & de-rigging, attaching & securing augers

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

Working at height to be avoided where possible ie by drilling down each section of auger so that securing pins can be added at ground level.

Augers will be added / removed by either:

1. Mechanical lifting with attendant excavator.
   - Augers are lifted with a single leg drop chain secured to the lifting point on the attendant excavator. All excavator movements will be supervised by the Piling Operative.
   - The area around the front of the rig shall be clear of all personnel prior to lifting augers.
   - Excavators must not move when the operative is in front of the rig or within the danger zone of the excavator, **or when operatives are working at height in a cherry picker or bosuns chair**
2. Lifting with auxiliary winch
   - Sections of auger shall be positioned close to the front of the rig to allow as vertical lift as possible and to prevent pendulum effect. A 6metre chain shall be used to allow the auxiliary winch to be uncoupled, without the need for work at height.
   - Operatives must stand clear as the sections are lifted before moving in to guide the section onto the previous auger. Hands will be kept clear of the base of the auger to prevent trapping of hands.

Work at height whilst adding removing augers (adding / removing auger pins)

There shall be NO climbing of augers

- *Bosuns chair / Harness - The excavator will lift in the section of auger under the direction of a Piling Operative. The drive head will be brought down onto the top of the auger to prevent it moving in an uncontrolled manner.*

  With the excavator remaining in position, an operative seated in the bosuns chair attached to the auxiliary winch (and wearing a full body harness connected to an arrestor block) shall be raised into position in a controlled manner.

  The operative will knock in the securing pins into the auger joint and remove the chains from around the section of auger.The operative in the Bosuns chair shall signal to the rig operator and he will be lowered to the ground, again in a controlled manner. Once he is safe on the ground the excavator will then be instructed to move clear of the rig. The securing pins will be added to the bottom of the auger.

2.5 Rig operation

Plan work schedules so that rigs are not tracking over, or augering down close to freshly completed piles

A Banksman must be in attendance with the rig driver when operating or moving the rig.

Throughout the piling process a minimum 10metre exclusion zone around the rig will be safeguarded by physical barrier or policed by the Banksman to prevent access by other contractors. The piling area shall be dedicated to piling personnel; with other contractors excluded without permission to enter

Guarding fitted to rigs must remain in place throughout the piling process. Where piling cannot be completed with guarding in place, work will stop & further instruction sought from the Contracts Manager. Document any amendments.

The piling rig will tracked into position under the supervision of the Banksman, & the mast and auger plumbed vertical prior to drilling. The flight auger will then bore into the ground to the required design depth.

As concrete is pumped into the pile position all personnel will maintain 5 **metres** clearance around the front of the rig to prevent injury from falling spoil being cleared by the auger cleaner. The rig driver is responsible for making sure that no spoil that could cause injury rides up the auger beyond the auger cleaner.

A 5metre exclusion zone for all non-piling related staff should be in place around the full length of the concrete hose. No one should be stood over, or step over a hose during pumping.

On completion the rig will track off the pile position under the supervision of the Banksman & the excavator will clear the spoil and concrete overbreak. The top of the concrete checked for contamination.

Operatives must not stand underneath buckets. Plastic protective caps will be placed on the tops of the reinforcing to aid visibility & prevent injury.

The rig will then move to the next pile position. This should be a sufficient distance away so as not to disturb recently formed piles.

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 to piling occurs and the auger needs to be removed, make sure that the 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. Check the condition of the piling mat and make sure that the attendant excavator has not reduced the thickness whilst clearing up.

2.6 Concreting

Refer to VE Work Instruction for concrete pumping

The concrete plant will be set up on a suitable platform using a ramp using a drum fitted with change-over valves.

Concrete hoses will be positioned or buried to prevent damage from site vehicles. All sections will be coupled and secured with clamps & split pins. Additionally, whip-checks will be used on hose joints that are off ground.

Hoses will be moved around site using a short leg chain or strop on the excavator lift point. Hoses will not be lifted in excavator buckets.

The concrete wagon will be directed to the concrete plant under supervision of the Banksman or Pumpman. A suitable washout area agreed/provided by the main contractor will be used by concrete delivery wagons to prevent ground contamination.

2.7 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 steelfixers 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.

2.8 Cleaning out hoses & clearing blockages

The cleaning out of hoses & clearing blockages will be carried out in accordance with the **Work Instruction for Pumping Concrete.**

The pipeline must be considered to be pressurised during the cleaning process and no couplings should be loosened or removed unless the pressure in the pipeline has been released and this has been confirmed by the concrete pump operator.

All non-piling personnel will be cleared from the area.

The auger will be bored into the ground at a position agreed by the main contractor or housed in a blow out box in order to contain concrete & washings.

The wash out adaptor will be fitted with a pressure relief valve & be in good working order. Make sure the blow out valve is not directed at anyone, including yourself. Whip checks will be fitted to airlines. Air will always be introduced in a controlled manner.

All equipment will be washed down with the pressure washer taking due care not to spray water/washings onto other personnel/property.

If a blockage occurs the pump operator stops pumping immediately. Instruct personnel to move to a safe position (minimum 10 metres) before opening any joints. **This is to be policed by a competent Banksman.** The pipeline must be treated as being pressurised at all times.

Goggles or full face visor must be worn. The Foreman must make sure that no one, under any circumstances, attempts to open the pipeline under pressure.

Compressed air should only be used as a last resort when clearing blockages.

2.9 On site fabrication of augers etc

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

2.11 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.

2.12 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.

3. Communication and liaison

(Other contractors, home owners, neighbours, Local Authority, Highways Authority, Statutory Bodies)

Van Elle site operations will be under the full-time supervision of a competent and experienced Foreman who has completed Supervisor Training (NVQ3 / SSSTS). The Site Foreman for this project will be identified in due course upon specific request.

The Foreman will be responsible for daily routine operation; preparation and submission of all daily records; receiving and acting upon formal site instructions; and reporting site conditions which may require variations to this method statement.

The Foreman will report directly to the Contracts Manager / Director on a regular routine basis or on specific instances when necessary.

The Divisional Director responsible for this project is Steve Bursnell.

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

4. Emergency plans

(Contact phone number, fire plans, accident/injury plan, defect/sub-standard condition reporting.

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

Van Elle 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 reported directly to the Van Elle Safety Dept. and the Main contractors site manager

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

FIRST AID INFORMATION AND EMERGENCY ACTIONS FOR COSHH SUBSTANCES

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

SPILLS
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.

Suspension Trauma

The risk from Suspension Trauma is minimal due to the operative being in a seated position in the Bosuns chair rather than being suspended in a harness. In the event of the operative becoming incapacitated, the bosuns chair is lowered to the ground by the rig operator. In the event of a mechanical breakdown, the operative shall remain in the bosuns chair if the breakdown can be rectified. The operative may exit the chair & climb down to safety connected to the fall arrestor block.

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.

RISK ASSESSMENT

Persons Affected: Piling Crew, other contractors on site, members of the public passing the site or residing in adjacent areas.

Significant hazards	Initial risk	Control Measures	Residual risk	Responsibility
Site wide risks	Medium	• 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	Permit to Work (SET16) to be signed by the Clients senior representative on site or by a senior manager employed by Van Elle 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. • 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 • Overturning rig or machinery due to poor design, poor installation & maintenance, Removal of obstructions	High	• 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. • VE Foreman not to enter on to piling platform until completed. Foreman to monitor during our operations & report to Main Contractor / VE Contracts 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
Rig overturning due to underground collapse / funnelling of non-cohesive or granular materials	High	• 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.	Low	Contracts Manager Foreman
Plant & vehicle movements • Obstruction of footpaths at site access and egress points;	High	• Access routes for lorries will be agreed with the Main Contractor before work commences • Site speed restrictions will be adhered to • Consideration for room required for manoeuvring the machine. Check for obvious hazards such as soft ground, narrow gaps, limited head-room, gradients and excavations	Low	Contracts Driver / Machine operator

• Other road / site traffic movements, • Collision with surrounding structures or plant/equipment during rig movements		• All reversing vehicles & rig/plant movements will be directed by a Banksman		Banksman
Attendant Crane	High	• Refer to separate lift plan	Low	
Unloading piling rigs • Damage to road surfaces / pavements • Plant or equipment falling from transport vehicle • Slips, trips falls Environmental conditions - poor visibility, heavy rain, high winds, snow & ice	High	• 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
		• 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
		• 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
		• 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. • Whilst accessing trailer. • Struck by moving or falling loads	High	• 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
		• 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:		All Staff

		○ Keep the number of persons on the lorry to 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		
Lorry mounted crane operations • Overturning of the crane may occur through the following; ○ 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	• All crane movements & lifts will be completed under the direction of a Banksman	Low	Foreman
		• 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 in accordance with LOLER 1998. • 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 • A test lift to be conducted 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
		• 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
Rigging & de rigging • Trapping, crushing or significant injury as a result of accidental operation of drill head or mast controls or uncontrolled movement of auger • Fall from height • Falling tools & materials • Failure of auxiliary winch during operation • Suspension Trauma • Falls from height & falling objects	High	• Trained & competent operatives to be deployed. • Rig must have a current 6-monthly Thorough Examination. Certificate must be available on site for inspection.	Low	Contracts
		• 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
		• 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
		• Auger to be held in the gate and remain attached to the excavator whilst the person in Bosun's Chair is raised into position in a controlled manner, where he 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 Bosun's Chair has descended.		Slinger Signaller

		• Augers will not be raised or lowered when the Bosun's Chair is operating. • Auxiliary winch must not be used to lift anything else at the same time as a person in the Bosun's Chair		
		• Inspect fall arrest equipment / safety harness before use and used whilst seated in the Bosun's chair. All tools and equipment to be stored safely while climbing and descending • Bosun's Chair is designed such that the risk from falling from height is eliminated; the chair is supported between the legs so that the operative cannot fall sideways or backwards • The risk from Suspension Trauma is minimal due to the operative being in a seated position in the Bosuns chair rather than being suspended in a harness		Person Climbing
Piling Rigs operation • Clearing spoil • Failure of auxiliary winch during operation • Noise • Hit by flying or falling materials • Slips, trips & falls • Projecting reinforcements • Instability when lifting & tracking • Entanglement with rotating auger • Contact /entanglement with moving parts of rig (eg track) • Edges of platforms, excavations • Open Bores	High	• 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		Main contractor
		• Rig must have a current Thorough Examination. Certificate must be available on site. • Rig to be inspected on a daily basis before use and during use by the rig operator. Record of inspection to be maintained. • Trained & competent operators of piling rig. (CPCS) Trainees can operate rig under direct supervision of experienced rig operator. • All rig movements will be completed under the direction of a trained and competent slinger/signaller. (eg CPCS) • Rigs to be fitted with guards to prevent access to the rotating auger. Guards to extend from 500mm from ground level to 2m. 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. • Rig will only travel distances with the auger suspended if the gates have been securely closed & the mast tilted back as per manufacturers instructions. • Tracks must be at full width when rig is working • Mast foot to be grounded during lifting • 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 • Noise - Operatives to wear ear protection when noise levels are above 85dB(A). Mandatory signs to be displayed. • 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. • Use correct access (handles and steps) when entering and exiting the cab. • Personnel will not mount or dismount from the machine/rig whilst moving. • Be aware of excavations adjacent to the platform. Ensure they have been protected / secured before approaching with the rig • Personnel on ground to keep clear of rig whilst moving; tools & materials not to be stored under tracks on track base • All open boreholes must be covered with suitably strong material or barriered off	Low	Foreman

		• 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. • 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 10metres 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
Concrete Pumping (General) • 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	• 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
		• 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 • Hose whipping • Strike by high pressure water/air/concrete	High	Prevent blockages by • 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 Dealing with blockages correctly • 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

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Cleaning out Hoses • Hose whipping • Strike by high pressure water/air/concrete	High	• 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
Hose bursts • Injury /property damage from material ejected at high pressure • Burns & irritation from contact with wet concrete	High	• 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 concrete 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
		• Ensure that concrete hoses don't get kinked and will 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 • 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	High	• Machine to be operated by trained & competent drivers (eg CPCS) Third party drivers must be inducted into the Van Elle procedures & SET6 completed • 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
		• 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.		Machine operator

• Pedestrian struck by falling object (bucket, other attachment or load) due to Failure of lifting equipment, Poor slinging, Lifting of loads above the Safe Working Limit, Poorly maintained • Incorrect equipment • Incorrect fitting of Quick Hitch • Operation by untrained / unauthorised persons		• 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. • 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
Petrol cut-off saws • Fire, • Injury from wheel bursts & kickbacks • Contact with rotating wheel or disk, • Clothing/hair entanglement with moving parts, • Inhalation of dust / fumes,	High	• 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. • Make sure that guards are fitted. Guards will not be removed except for maintenance purposes only	Low	All staff
Pressure washers • 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	• 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 • Use of PPE – 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 the following substances in the cleaner - acids, petrol, diesel or any other flammable materials, chlorine, bleach or any other corrosive compound • 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 the system 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	Low	Operator

		• Good housekeeping is required at all times. Keep hoses tidy & away from walkways. Exclude all non Van Elle persons from the area.		
Security • Unauthorised use of plant by other contractors or trespassers • 3rd party damage • Theft of plant, equipment and materials	Medium	• Reduce risk of theft of plant & equipment by: o Taking steps such as removing one wheel or fitting wheel clamps, chaining plant equipment to a fixed object; removing batteries, o Fitting control arm covers. o Locking 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 • Materials will be safely stacked and stored 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 Van Elle are responsible for the site, adequate security fencing and sufficient number of construction/mandatory warning signs will be deployed	Low	All staff
Refuelling plant & machinery • Fire & burns • Irritation of skin through prolonged contact. • Irritation of respiratory tract	Medium	• 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
Steel Fixing • Slips, trips • Lacerations & crush injuries Hands & legs • Eye injuries due to flying tie wire; Infections in cuts • Falling cages • Collapse / overturning of trestles	Medium	• 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
Fabrication • 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	• 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 fork lift 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	Low	User

		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		

Think Act Safely

Manual Handling

Task Description: General manual handling activities during piling works

Task involves the offloading & moving equipment and materials around site. Includes concrete hoses, sections of auger, reinforcing cages, jet washer, bags of auger bungs, tools etc

Duration of task	
Less than 2 hours	4 to 8 hours
2 to less than 4 hours	Over 8 hours

Load considerations				Notes
Uneven distribution of weight	✓	Bulky / unwieldy	✓	Lacerations & crush injuries to hands, fingers, legs & feet whilst handling loads. Long cages can flex whilst being carried which can result in imbalance. Likely to encounter bulky loads without handholds, with uneven centre of gravity or loads difficult to grasp
Unstable / contents likely to shift	✓	Difficult to grasp?	✓	
Intrinsically harmful (sharp/hot)?	✓			

Task considerations				Notes
Holding load away from trunk		Strenuous pushing/pulling		Storage on site is generally ground level, or low head height or if the body twists Significant stooping and twisting when carrying loads Moderate/high forces are exerted to move loads 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?		PPE does not affect abilities
Risk to those with health problems /disability	✓	Requires special information or training?		
Movement affected by PPE				

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		
Uneven ground?	✓	Dust & fumes		

Control measures

Process can be mechanised by use of excavator to lift concrete hoses, auger sections & reinforcing cages

Crews to consider the task at hand & plan ahead regards to reducing carrying distances through positioning / storage of materials adjacent to work area

Handling of light – medium weight loads will be subject to on-site assessment by foreman & operatives

Completion of manual handling training - use good lifting techniques & awareness of own limitations

Plan the lift and ensure the route is clear of all hazards. Ensure ground is scraped and kept firm & level.

Make sure load can be handled effectively - check stability and centre of gravity before lifting, moving

Wear protective gloves at all times

Take into consideration the weather conditions (ice etc)

Ensure task lighting is available and operational. Check for shadow areas for trip hazards.

Health screening including musculoskeletal assessment

Environmental Assessment

Aspect / Impact	Risk rating	Control Measures	Residual risk
Mobilisation & deliveries • Potential for noise & disruption to local community particularly during early deliveries to avoid peak traffic. • Contamination of highways & surface drains if vehicles or plant being transported are not cleaned prior to leaving site. • Fuel consumption & exhaust emissions	High	• 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 • Wheel washes & cleaning down plant prior to transport if required • Use low emission fuels, ADBLUE. Switching vehicles off when not in use	Low
Travel to site • Fuel consumption & exhaust emissions; Congestion	Medium	• Lodging in hotels close to work area • Use of crew cabs & van sharing instead of each person using their own vehicle	Low
Piling operations • 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	• Choice of work method to minimise spoil generation; • Correct disposal route; some spoil can be re-used 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 • 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	• 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; provision of 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.	Medium
Mobile plant operations • 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	• 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 • Pollution of water courses, drains & sewers through accidental spills, hose bursts and poor storage	High	• 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 • Waste being mixed or sent to incorrect landfill • Leaching into ground and entering drains & watercourses. • Damage to plants/animals, unsightly windblown rubbish	Medium	• Segregation of waste & recycling; • site waste management plans, use of licensed disposal routes; • Provision of suitable waste containers. • Housekeeping	Low
Handling of materials, over ordering & stock control • Excess waste to landfill, Materials becoming damaged & unusable;	Medium	• Order correct amounts of materials; avoid accepting incorrect deliveries; avoid double handling; Re-use/recycling materials, segregation of waste	Low
Tree pruning	Low	• Client to consult local council to check for Tree Preservation Order (TPO).	Low

Think Act

• Trees sometimes need cutting back for rigs to gain access.		• Trees covered by a TPO will require planning consent.	

COSHH ASSESSMENT

Readymix Concrete / Cement	Initial risk	Control Measures	Residual risk	Responsibility
• Irritant and corrosive properties, especially when wet, towards the skin & eyes. • Prolonged & repeated exposure to wet cement may also lead to dermatitis developing. • Prolonged & repeated exposure to cement dust may lead to chronic productive cough (bronchitis).	High	• Avoid contact with skin – wear impervious gloves and protective clothing, including overalls with long sleeves and long trousers & keep exposed skin to a minimum. Eye protection must be worn to protect from splashes. • *Gauntlets must be worn when mixing grout, but do not allow grout/cement to become trapped between the glove and skin.* • Employ good hygiene practices – regularly washing the skin with warm water and soap, and drying the skin afterwards. Use facilities for drying clothes and change clothes regularly. • If mixing cement by hand, Wear respiratory protection with minimum standard of FFP3. • Airborne dust should be prevented by only opening bags when needed and by not shaking bags completely empty them • Use powder mixes in well ventilated areas. Wear respiratory protection when mixing large quantities or working in areas of poor ventilation.	Low	All

Admixtures	Initial risk	Control Measures	Residual risk	Responsibility
• Slight irritant and corrosive properties towards the skin & eyes, & may lead to redness & swelling; eyes may also start to sting, or start tearing. • Swallowing of small amounts during normal handling is not likely to cause harmful effects; swallowing large amounts may cause nausea, diarrhoea & vomiting	Medium	• **FOLLOW MANUFACTURERS INSTRUCTIONS** • **ALWAYS READ THE LABEL** • Avoid contact with skin – wear impervious gloves and protective clothing, including overalls with long sleeves and long trousers & keep exposed skin to a minimum. Eye protection must be worn to protect from splashes • Employ good hygiene practices – regularly washing the skin with warm water and soap, and drying the skin afterwards. Use facilities for drying clothes and change clothes regularly	Low	Al

Mould Oil	Initial risk	Control Measures	Residual risk	Responsibility
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	Wearing impervious gloves when handling oil Wearing long-sleeved protective clothing; Wear eye protection at all times Practice good hygiene by wash hands & face before eating drinking or smoking, Refrain from touching face with soiled hands. Change out of contaminated clothing before eating or drinking & application of barrier creams to exposed skin;	Low	All

Pump Primer	Initial risk	Control Measures	Residual risk	Responsibility

Think Act Safely

Slight irritant properties towards the eyes, & may lead to redness & stinging. Swallowing of large amounts may result in localised burning	Medium	Employ good hygiene practices – regularly washing skin with warm water and soap, and drying the skin afterwards. Use facilities for drying clothes and change clothes regularly. Contact with skin and eye to be avoided by wearing impervious protective clothing, including overalls with long sleeves and long trousers. Safety glasses must be worn to protect from splashes. Use powder mixes in well ventilated areas.	Low	All

Engine Oil	Initial risk	Control Measures	Residual risk	Responsibility
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	Medium	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 Wearing impervious gloves when handling oil or contaminated equipment Wearing long-sleeved protective clothing; Change out of heavily soiled clothing; cover exposed wounds. No contaminated materials (oily rags) in pockets Application of barrier creams to exposed skin; Spill kits & drip trays should be accessible; Use funnels when decanting liquids Good ventilation Practice good hygiene by wash hands & face before eating drinking or smoking, Refrain from touching face with soiled hands. Change out of contaminated clothing before eating or drinking	Low	All

Hydraulic Oil	Initial risk	Control Measures	Residual risk	Responsibility
Not classified as dangerous for use in UK, however contact with skin and eye should be avoided. Inhalation of mists may cause mild irritation. Risk of injection injuries when pressurised hydraulic system leaks or bursts.	Medium	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 Wearing impervious gloves when handling oil or contaminated equipment Wearing long-sleeved protective clothing; Change out of heavily soiled clothing; No contaminated materials (oily rags) in pockets; cover exposed wounds Wear eye protection at all times Good ventilation Practice good hygiene by wash hands & face before eating drinking or smoking, Refrain from touching face with soiled hands. Change out of contaminated clothing before eating or drinking & application of barrier creams to exposed skin;	Low	All

Grease	Initial risk	Control Measures	Residual risk	Responsibility
Continuous & prolonged exposure to grease may cause irritation of the skin	Medium	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 Wearing impervious gloves when handling greases No contaminated rags in pockets Practice good hygiene by wash hands & face before eating drinking or smoking, Refrain from touching face with soiled hands. Change out of contaminated clothing before eating or drinking	Low	All

Diesel and exhaust fumes	Initial risk	Control Measures	Residual risk	Responsibility

Think Act Safely

Irritation of your eyes & respiratory tract; headaches and convulsions. Repeated contact with your skin can cause de-fatting & in some cases, dermatitis. Prolonged exposure could lead to breathlessness and unconsciousness Irritation of the mucous membranes, throat and stomach, nausea and vomiting. Liver and kidney damage is possible.	High	Turn off engines when not required; Do not breathe vapours- all re-fuelling to be carried out in well-ventilated areas- preferably outdoors and away from sources of ignition. Funnels should be used Store in well ventilated areas away from naked lights & heat sources. Store in bunded bowsers or jerry cans. Drums must be stored upright in a bunded area. Do not allow to enter water supplies or soil. Do not eat or smoke in areas where there is likely to be exposure; Employ good hygiene practices. Site powerpacks in well ventilated areas. Use mechanical ventilation &/or tail-pipe filters when working in poorly ventilated areas	Low	All

Linemarker Paint	Initial risk	Control Measures	Residual risk	Responsibility
Can cause asphyxiation, and irritation to 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 Paint poses more of a fire risk than a health risk. Highly toxic acidic fumes evolve if exposed to fire	Medium	**Pressurised containers -** Do not use or store in close proximity to sources of ignition. Wear gloves to prevent paint coming into contact with skin. Do not inhale aerosol mist	Low	All

Petrol	Initial risk	Control Measures	Residual risk	Responsibility
• Harmful by inhalation. May cause irritation to the respiratory system. Prolonged exposure to vapours may cause drowsiness and narcosis. • Irritating to the skin. Will cause redness and inflammation. • Prolonged and repeated contact with skin may cause dermatitis due to defatting effect and may also cause cancer.	High	Use in well ventilated areas Wear protective clothing and chemical resistant gloves Practice good hygiene by wash hands & face before eating drinking or smoking, Refrain from touching face with soiled hands. Change out of contaminated clothing before eating or drinking	Low	All

All substances	Initial risk	Control Measures	Residual risk	Responsibility
Accidental spills & disposal resulting in pollution of watercourses & ground	High	Do not pour waste chemicals down drains Always store in original containers that are correctly labelled Spill kits & drip trays should be accessible; Use funnels when decanting liquids FOLLOW MANUFACTURERS INSTRUCTIONS	Low	All

Think Act Safely

		Contain spillage in booms or sand or absorbents. All contaminated items & substances must be disposed of as hazardous waste		

Site: Parliament Hill School, Sports Hall & Teaching Block, Camden, London,
Job No.175168, Revision No.

LIFT SCHEDULE

Lifting Equipment	Outrigger spread required	Ground Bearings	Boom Length	Mat / Pad sizes	Hook Block	S.W.L
Lorry Mounted Crane	Fully spread	~20Tonne/m²	11m max	450mm square with each outrigger	As fitted	Minimum 5000kg @ 5metres
13 Tonne Excavator	Tracked	<10Tonne/m²	N/A	N/A	Lifting point on dipper arm with 8T shackle	Require info from principal contractor
Piling Rig	Tracked,	As per spec sheet	N/A	N/A	As fitted	Minimum 3000kg
Attendant Crane	Refer to separate lift plan					

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
Augers	Up to 450mm Øx 6metre	500Kg	Uniform	No lift points; choke between flights	4.25T twin leg for offloading 3.15T single leg for rigging
	600mm Øx 6metre dbl skin	580Kg	Uniform		
	750mm	Kg	Uniform		
	900mm x 6metre	Kg	Uniform		
Cage (single)		Max 1000Kg	Long, flimsy	1. Lift horizontally when transporting around site with twin leg chain hooked in line, or choked. 2. Lift vertically with single leg chain secured around rebar / helicoil joint.	4.25T twin leg 3.15T single leg
Cage (bundle)		Max 1000Kg	Long, flimsy		

Think Act Safely