

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	- 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; - Other road / site traffic movements, - Collision with surrounding structures or plant/equipment during rig movements	High	Access routes for lorries will be agreed with the Main Contractor before work commences	Low	Contracts
		- 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		Driver / Machine operator
		All reversing vehicles & rig/plant movements will be directed by a Banksman		Banksman

Unloading piling rigs & equipment - 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 closed hooks. Open hooks must not be used under any circumstances. - All loading & unloading will be conducted under the direction of a trained Slinger/Signaller (CPCS/NPORS) - 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. Edge protection to consist of top and intermediate handrails. - If edge protection is not fitted there must be other provisions such as soft landing systems to minimise injury from falls	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: - 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
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.	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. - 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.		Crane Operator

- 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		- 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 & 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, attaching securing augers - 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 - Manual handling of casings & auger sections	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. Foreman to make sure one person takes charge to coordinate activities. - Where possible, working at height will be avoided by drilling down - Attending 360 excavator or auxiliary winch to be used to lift auger sections. The Safe Working Load will not be exceeded. - Make sure that the work area is free from obstructions that could affect the operation.		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
		- Banksman to stand in position where he can see entire operation. - Auger to be held in the gate and remain attached to the excavator whilst the person in Bosun's Chair or MEWP is raised into position in a controlled manner, where he will knock in the pins.		Slinger Signaller
		Standing on clamps will be allowed provided they are clear of spoil.		Person Climbing
Piling Rigs operation - 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)	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	Low	Main contractor
		- 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		Contracts
		- 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 manufacturers 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		Foreman

• Inhalation of dusts and exhaust fumes • Fluid / air injection from burst pneumatic hoses		• 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. VE Foreman to monitor during operations & report to Main Contractor / VE Contracts Manager.		
		• 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
		• 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. • 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.		All staff
Concrete Pumping (General) • Burns & irritation from contact with wet concrete • Entanglement in moving parts of plant • Fall from height when operating mixer drum	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
• Manual handling • Hit by moving hose • Slips, Trips and Falls		• 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
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 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 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 Injury due to poor condition of equipment	High	- Machine to be operated by trained & competent drivers (eg CPCS) Third party drivers must be inducted into the Van Elle procedures & SET6 completed. Sign onto the RAMS - Operatives who do not hold a CPCS/NPORS Slinger/Signaller card 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.	Low	Foreman

• 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 • Operation by untrained / unauthorised persons		• 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		
• 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		
• 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. • Accessories must hang vertically and freely from the lift point to prevent damage • 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. • The operator will 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	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 • 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	Low	Operator

- Slips & trips from wet surfaces - Risk of injury from kickback during startup - Noise risks		- 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 Van Elle persons from 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. 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 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

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 • <i>Gauntlets must be worn when mixing grout, but do not allow grout/cement to become trapped between the glove and skin.</i> • <i>If mixing cement by hand, Wear respiratory protection with minimum standard of FFP3. Must be clean shaven and fit tested</i> • <i>Airborne dust should be prevented by only opening bags when needed and by not shaking bags completely empty them</i>	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

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	- 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	- 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	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	- 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 ventilated areas can lead to Carbon Monoxide poisoning	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 bowsers or jerry cans. Drums must be stored upright in a bunded area. Do not allow to enter water supplies or soil. For smaller rigs, locate powerpacks in well ventilated areas. Use mechanical ventilation &/or tail-pipe filters when working in poorly ventilated areas	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

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

Manual Handling - Adding & removing auger sections whilst carrying out restricted access piling					Duration of task	
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.					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	• 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?	✓			
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 Cold is an issue when working during winter		
Variations in levels? (steps/slopes)		Poor lighting?	✓			
Extreme heat / cold?	✓	Postural constraints				
Uneven ground?	✓	Dust & fumes				

Environmental Assessment		Risk rating	Control Measures	Residual risk
Aspect	Impact			
Mobilisation & deliveries	- 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	- 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	- 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; 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	- 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; 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	- 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	High	- Segregation of waste & recycling; - site waste management plans, use of licensed disposal routes; - Provision of suitable waste containers. - Housekeeping	Low
Material Handling	Poor handling and storage of materials leading to excess waste to landfill, Materials becoming damaged & unusable; poor stock control	Medium	Order correct amounts of materials; avoid accepting incorrect deliveries; avoid double handling; Re-use/recycling materials, segregation of waste	Low

Lift Schedule

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	No lift points. Attach clamps on opposite sides of casing	2 no. lift clamps; 3.15T twin leg
	408mm	154Kg/m		
	508mm	200Kg/m		
	660mm	280Kg/m		
Augers	300mm Ø x 1metre	84kg	Use plate clamp lifter or dollies to lift augers in and out of stillages 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 Small plate clamps with lowest minimum SWL
	450mm Ø x 1metre	110Kg		
	600mm Ø x 1metre	130Kg		
Cage (single)	16B25 x 9m & 8B32 x 9.5m	Max 1000Kg	1. Lift horizontally when transporting around site with twin leg chain hooked in line, or choked.	4.25T twin leg
Cage (bundle)		Max 2000Kg		3.15T single leg

				2. Lift vertically with single leg chain secured around rebar / helicoil joint.	
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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