

WORKS PACKAGE PLAN

VIBRO STONE COLUMNS USING THE DRY TOP/BOTTOM FEED PROCESS WITH PRE-AUGERING

Contract Name	PORT TALBOT – CARBON HUB
Contract No.	30360

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I confirm that the relevant sections (RAMS, site rules etc.) of this works package plan have been briefed to me by the Menard management representative and I fully understand my responsibilities and the safe systems of work detailed herein, in order for me to undertake my duties in a safe manner. I have read and understood this documentation prior to commencing work:

Name	Job Title	Signature	Card No.	Date
Menard Management Representative Name:		Position:		
Signature:				

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1. Scope of Works

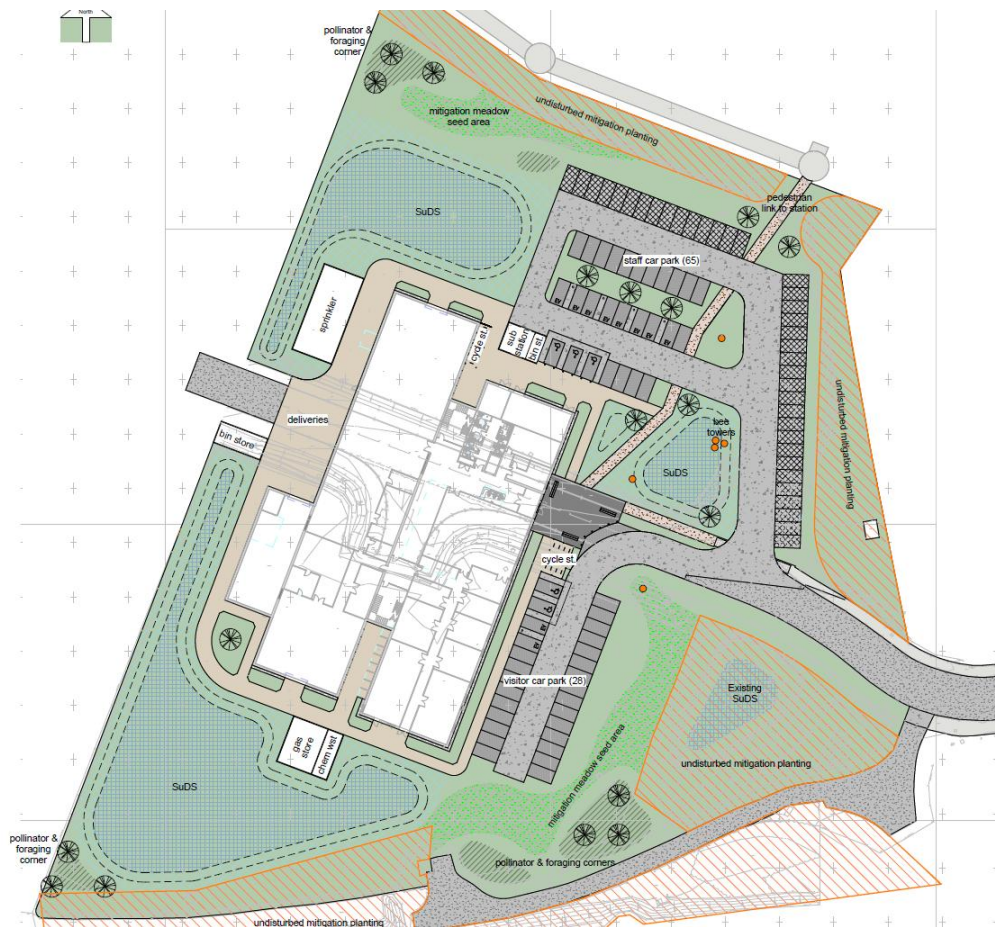


Figure 1 - Site layout with VSC treatment area in white

This works package plan covers the installation of vibro stone columns using the dry top/bottom feed process with pre-augering to improve the bearing capacity of the existing soils beneath the foundations of the proposed two-storey carbon hub research building in Port Talbot. Approximately **TBC** no. stone columns are to be installed beneath the pads/strips/slab of the structure, inclusive of **TBC** no. plate load tests.

The Principal Contractor (our client) for the site is Morgan Sindall Construction & Infrastructure Ltd.

In preparation for the works, a working platform shall be installed by Morgan Sindall Construction & Infrastructure Ltd to accommodate the rig bearing loads and associated equipment. A signed platform certificate shall be issued to Menard before commencement (see the requirements in section 4.2). The working platform must cover the footprint of the working area plus 2m beyond, including access routes, ramps and laydown areas. The platform should receive sufficient testing to validate the success of its installation.

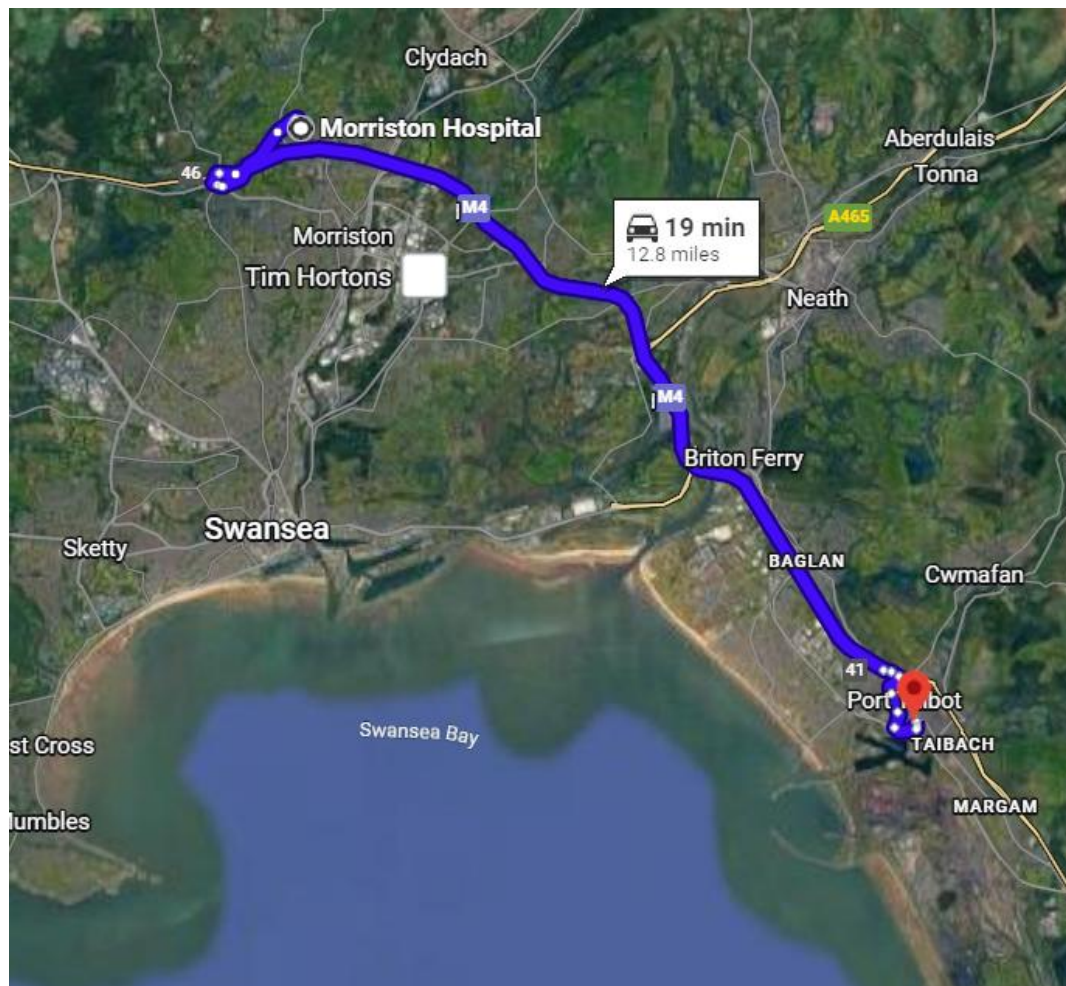
The setting out of key column positions is to be the responsibility of Morgan Sindall Construction & Infrastructure Ltd. All steel pins must receive protective caps.

The anticipated duration of the work is 1.5 weeks.

The work will be carried out in 1 no. visit.

2. Site Details, Organisation & Emergency Contacts

Site Address:	Harbour Way, Cramic Way, Port Talbot SA13 1RU
Nearest Hospital Address:	Heol Maes Eglwys, Morriston, Cwmrhydyceirw, Swansea SA6 6NL



In the event of an emergency, telephone 999.

Reportable Safety Accident / Incident: Please refer to document VM/PROC/7037 (Incident Reporting).

Major Environmental Incident: EA & SEPA **0800 807060** (24hr helpline)

Morgan Sindall Construction & Infrastructure Ltd must brief Menard personnel within the site induction on the site-specific emergency procedures.

Menard Organisation

Site Supervisor – TBC

Mobile No: TBC

Responsible for site safety, site labour and site operations

Contracts Engineer – Adam Teece

Mobile No: 07977 423017

Project Manager and liaison with Morgan Sindall Construction & Infrastructure Ltd



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Operations Manager – David Rickson
Management of operations and resource allocation

Mobile No: 07715 484197

Health & Safety Manager – John Martin

Mobile No: 07845 055132

Environmental Advisor – Georgia Gillen

Mobile No: 07890 041552

Morgan Sindall Construction & Infrastructure Ltd

Site Manager – TBC

Mobile No: TBC

Management of site, site specific safety and induction, and liaison with Menard staff

Project Manager – Adrian Millard

Mobile No: 07385 005882

Management of project / contract and liaison with Menard staff

3. Safety Responsibilities and Control of Site Risks

3.1 Menard Safety Responsibilities

Menard staff will adhere to and promote the company Health & Safety policy. All works will be undertaken in accordance with relevant method statements and performed with due care and attention. All Menard personnel are encouraged to actively report any unsafe conditions and near misses via site management and internal reporting systems.

A site-specific induction from Morgan Sindall Construction & Infrastructure Ltd shall be attended by all Menard site staff, subcontractors, and visitors prior to the commencement of works. All Menard site staff and visitors must sign in with Morgan Sindall Construction & Infrastructure Ltd at the start of the shift. Daily start of shift briefings, new starter / agency worker inductions and site walkovers will be conducted by the Site Supervisor before work commences.

New starters and agency workers shall receive a company induction from the Menard Site Supervisor or engineer on the first day of site, prior to any works. New operatives must receive familiarisation training with the plant they intend to operate prior to use.

Toolbox talks shall be undertaken through the duration of the project at a rate of 1 per week on a subject relevant to the works. Emergency drills shall be undertaken on projects with a duration of 4 weeks or greater in accordance with procedure VM/PROC/7048.

Site safety inspections shall be performed by Menard as follows;

Site Supervisor – Daily site walkover

SHEQ Advisor – Visiting as required

Summary of identified hazards associated with Vibro Stone Column works;

Hazardous Activity	Associated Risk
Movement of plant	Equipment striking personnel or other plant.
Ground Improvement equipment working on site	Insufficient working platform provided for equipment. Unidentified soft spots or backfilled excavations.
Rigging/de-rigging equipment	Malfunction of equipment causing injury to persons or damage to equipment.
Potential unidentified underground services	Electrocution, gas leak, damage to services or UXO.
Modification of equipment	Malfunction of equipment causing injury to persons or damage to equipment.
Items falling from height	Persons injured through falling objects
Restricted access into site	Injury to public or equipment through road traffic incident.
Slips and Trips	Minor muscle/ligament damage.
Excessive driving	Fatigue causing lack of concentration of person undertaking works.
Unprotected setting out pins	Injury to personnel if fell upon.
Manual Handling	Back / muscular damage.
Diesel spillage	Entry into watercourse damaging environment.
Contaminated material	Illness or poisoning through contact with skin and / or mouth.
Exposure to noise	Damage to hearing.
Exposure to vibration	Structural/Feature damage through vibration caused by works.

Full risk assessments for observed hazards can be found within Appendix A.

3.2 Morgan Sindall Construction & Infrastructure Ltd Safety Responsibilities

Morgan Sindall Construction & Infrastructure Ltd must provide a site-specific induction for all Menard personnel which should include the site rules, welfare arrangements, emergency procedures and site-specific hazards.

Morgan Sindall Construction & Infrastructure Ltd is to provide a safe place of work including the provision of statutory welfare facilities in line with schedule 2 of the Construction (Design and Management) Regulations 2015. Provision of which must include with sufficient space;

- Ventilated toilet and hand washing facilities
- Drying Room
- Potable drinking water
- Rest and messing area
- Washing facilities including a supply of clean hot and cold water, soap or suitable cleaning product and towels or other means of drying

3.3 PPE Requirements

All Menard personnel will be supplied the following PPE in line with the company requirements:

- Safety Helmet conforming to EN397, with chin strap
- High-Visibility Vests (or Jackets) conforming to EN471
- High-Visibility Trousers conforming to EN471
- Safety Footwear with steel toe cap and mid-sole protection confirming to EN20345 (No Rigger boots)
- Safety Gloves (specific to activity, see Appendix E) conforming to EN388
- Safety Glasses conforming to EN166
- Appropriate Hearing Protection (ear-defenders or earplugs)
- Task specific PPE (as identified in the risk assessment)

Any specialist or specific PPE in addition to the above must be supplied by Morgan Sindall Construction & Infrastructure Ltd.

3.4 Plant Inspections

All plant and equipment will be periodically inspected as required under PUWER and LOLER regulations, evidence of these checks will be provided to Morgan Sindall Construction & Infrastructure Ltd on a weekly basis.

All Menard plant (including subcontractors) will be subject to the same daily checks and periodic maintenance. Examples of the plant required to be inspected include:

- Vibropiling Rig
- Loading Shovel
- Pre-auger Rig

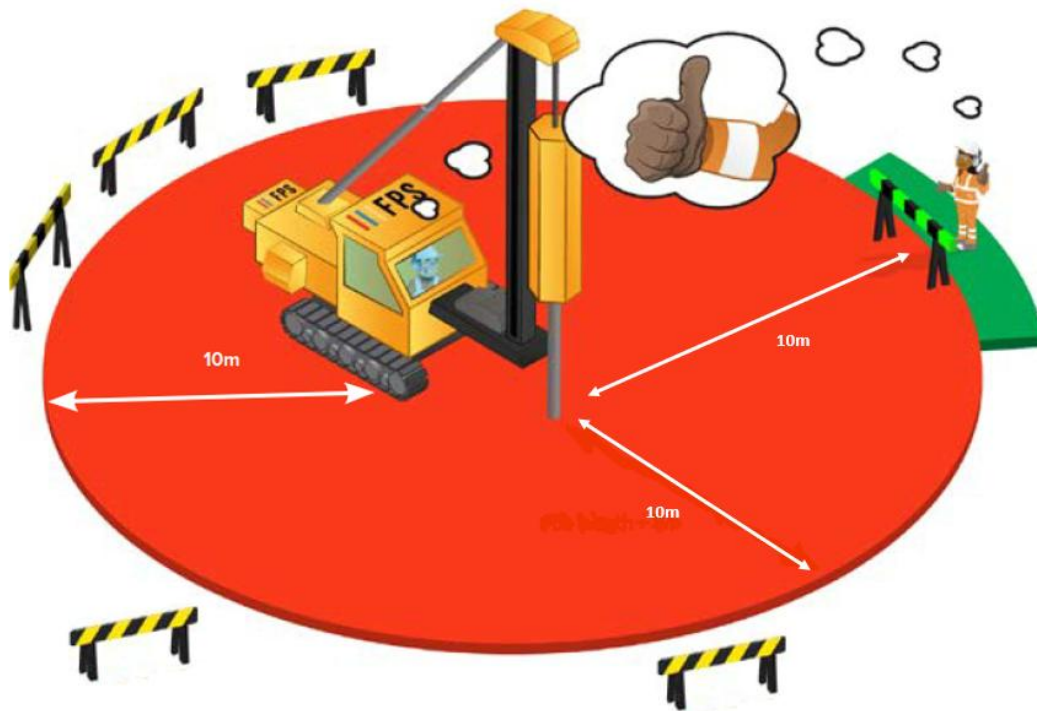
3.5 Restricted Zones and Safe Working around Menard Equipment

Menard require that no other trades encroach within 20m of our works, this should be implemented, maintained, and communicated to other trades by Morgan Sindall Construction & Infrastructure Ltd. Where necessary, physical segregation fencing should be used and managed around our working area.

Restricted zones will be established around our equipment where only authorised persons can enter or stand during normal operations to undertake specific related activities. Physical barriers (crowd barriers or cones with beams) shall be deployed by Menard locally around the works to define our 'restricted zone' as a deterrent. Should any unauthorised person encroach our restricted zone, works must stop immediately, and the person requested to leave.

The distances in metres (m) are set as a minimum, however may change due to the site logistics and site set up. It is important to understand that sufficient space is provided to enable safe operations and the effective separation of people and operational plant.

Vibropiling Rig



Red Zone: The Rig Operator must ensure the rig is placed in a safe condition before an **Authorised Person** enters the Red Zone. The operator must give a 'Thumbs up' to the **Authorised Person** wanting access confirming it is safe to enter before they enter the Red Zone.



Green Zone: Rig Operators sight line (safe approach), optimum Rig Attendant position.

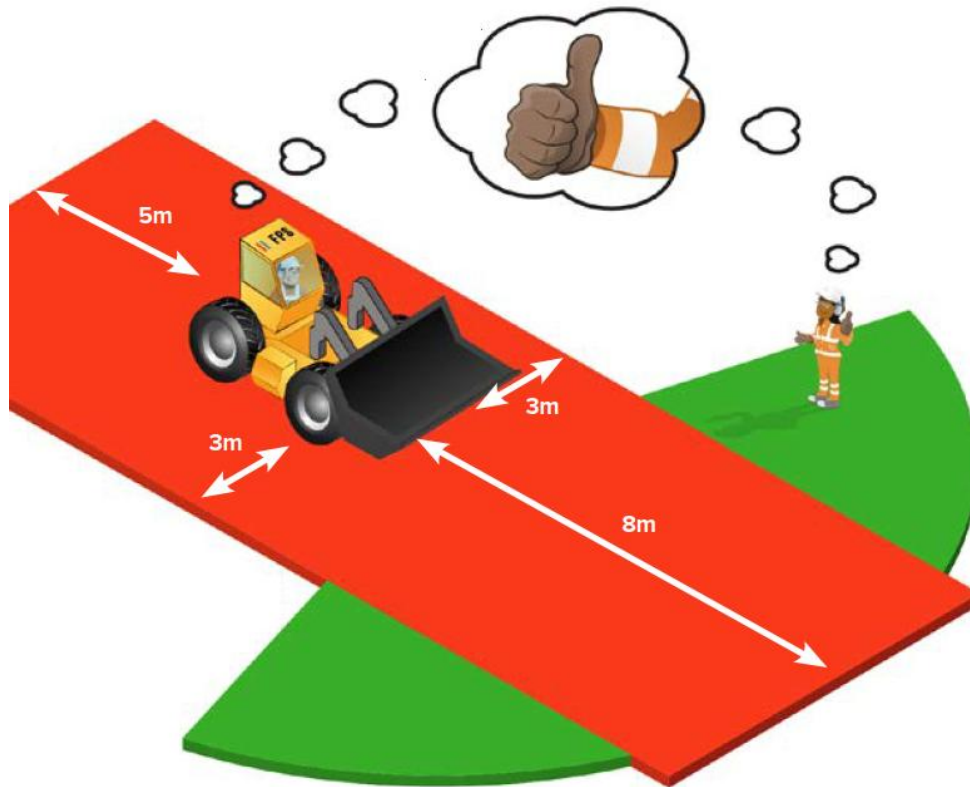
Note: People entering the Red Zone must be aware of and consider loads being lifted by the rig and the increased risk of falling objects and plant movements from other plant such as excavators and dumper trucks.

The loading shovel is permitted to enter the restricted zone during the operations.

Authorised personnel are permitted to enter the restricted zones to undertake routine tasks with a safe system of work.

For all non-routine tasks, the line manager must be consulted for a further review of the task and control measures that are to be put in place.

Loading Shovel

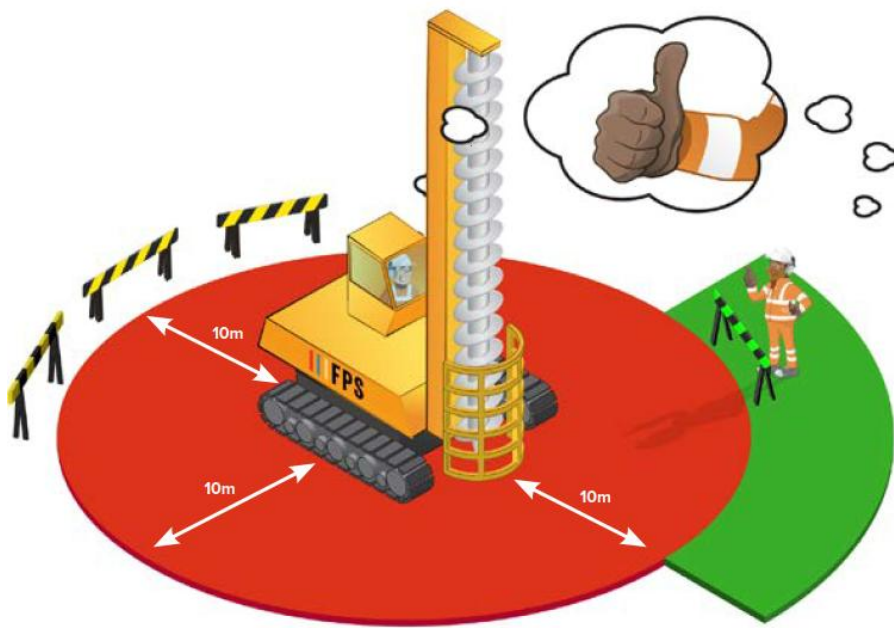


Red Zone: Keep out of this area at all times. No personnel to enter area unless the bucket is on the ground and the machine is placed in a safe condition.



Green Zone: Always signal 'Thumbs up' to the Plant Operator and receive a positive 'Thumbs up' response before entering Red Zone. Vehicle Marshallers must be within the line of sight of the operator.

Pre-Auger Rig



Red Zone: The Rig Operator must ensure the rig is placed in a safe condition before an **Authorised Person** enters the Red Zone. The operator must give a 'Thumbs up' to the **Authorised Person** wanting access confirming it is safe to enter before they enter the Red Zone.



Green Zone: Rig Operators sight line (safe approach), optimum Rig Attendant position.

Note: People entering the Red Zone must be aware of and consider the increased risk of falling objects and plant movements from other plant such as excavators and dumper trucks.

Due to the worksite layout, it might not be possible to maintain a 10m barrier distance behind the counterweight of the rig. In these situations a minimum distance of 2m must be established at all times.

The pre-auger rig can move from position to position without a banksman, only within a defined restricted zone. Barriers must be placed around the working area into which the pre-augering rig will work into.

Authorised personnel are permitted to enter the restricted zones to undertake routine tasks with a safe system of work.

For all non-routine tasks, the line manager must be consulted for a further review of the task and control measures that are to be put in place.

3.6 Traffic Management & Site Logistics

Morgan Sindall Construction & Infrastructure Ltd shall make suitable, safe and unimpeded access for all transport and deliveries in and out of site.

Where access for equipment deliveries cannot be made in to site and that the equipment has to be taken off on the highway; traffic management is to be provided by Morgan Sindall Construction & Infrastructure Ltd. No deliveries will be unloaded until traffic management has been put in place. All necessary personnel, permits and protection to the road / kerbs are to be provided by Morgan Sindall Construction & Infrastructure Ltd. See section 6.2.

The site traffic management plan should be briefed to all Menard personnel by Morgan Sindall Construction & Infrastructure Ltd within the site induction. Menard require that satisfactory access be made from the site entrance to our working area to allow the safe transport of equipment and material deliveries.

Pedestrian access must be made from the welfare area to the working area with adequate segregation from site traffic.

Transport and deliveries shall follow the traffic management plan to the entry point of our working area. Menard shall take responsibility of deliveries from the entry point of our working area to our place of work.

The rig and shovel shall each be fitted with a flashing amber light and an audible reversing alarm.

Any attendant mobile plant working under the control of Morgan Sindall Construction & Infrastructure Ltd must have flashing amber lights, reversing aids and audible alarms.

3.7 Lifting Operations

There are/are no planned lifts on this project.

Where a lift is required, a lift plan shall be produced and issued to the Menard lift supervisor in preparation for the lift.

All lifting accessories are to be inspected on a three-monthly basis and color coded for visual inspection. All lifting accessories will be inspected for defects prior to each use by the slinger signaler. An inspection color code key can be seen below.

4. Permits

4.1 Permit to Break Ground

A permit to break ground must be completed by Morgan Sindall Construction & Infrastructure Ltd and issued to the Menard Site Supervisor prior to the commencement of the works. All known services are to be identified on the permit and physically identified on site, protected (as required) by Morgan Sindall Construction & Infrastructure Ltd for the duration of our work.

The permit must specify the areas and gridlines that Menard are authorised to work in. Service location drawings should be obtained and checked by Morgan Sindall Construction & Infrastructure Ltd prior to signing off the permit. All necessary CAT scanning of the working area is the responsibility of Morgan Sindall Construction & Infrastructure Ltd.

The permit shall remain valid for a recommended period of no more than 5 working days. Once the permit has expired or the works are completed, the permit must be closed by Morgan Sindall Construction & Infrastructure Ltd and if required, a new permit issued.

4.2 Working Platform Certificate

Menard require a completed Working Platform Certificate prior to the mobilisation of plant. Details of the designer (part 1) should be completed along with a sign off by an authorised representative of Morgan Sindall Construction & Infrastructure Ltd to state that the platform has been installed satisfactory to the design (part 2). The form should clearly state the areas and gridlines for which the working platform is valid (use a drawing as necessary). Copies of the validation testing must also be appended to the certificate.

The certificate must cover the prepared working areas (plus 2m), access routes, ramps, and laydown areas for the equipment.

The maintenance inspection record must be completed following any modification or repair. Should a working platform be extended or provided to us, a new working platform certificate should be produced clearly stating the area and gridlines as reference (use a drawing as necessary).

4.3 Hot Works Permit

Where welding is required as part of repair or maintenance, a hot works permit is to be issued by Morgan Sindall Construction & Infrastructure Ltd to Menard. The working area must be agreed with a check on all precautions before any hot works can proceed.

Once the permit has expired or the works are completed, the permit must be closed by Morgan Sindall Construction & Infrastructure Ltd and if required, a new permit issued.

5. Method Statement

5.1 Pre-start Checks

Prior to the commencement of any works on site, the following will be in place:

- A signed Working Platform Certificate with associated drawings and test results/locations (FPS).
- A signed valid permit to break ground issued by Morgan Sindall Construction & Infrastructure Ltd.
- Current Certificate of Thorough Examination for the Rig, Loading Shovel & Excavator/Pre-auger Rig (where used).
- Current lifting certification for chains, slings and shackles and other lifting equipment (where lifting is required).
- All personnel to attend the project site induction.
- All site operatives briefed on the Works Package Plan, Lift Plans, Project Requirements, and ITP's.
- A signed Start of Shift Briefing.
- Project documentation (drawings, startup instructions, forms etc.).

5.2 Receiving Equipment on Site

The delivery of equipment shall be made through the site entrance as agreed with Morgan Sindall Construction & Infrastructure Ltd and received by a nominated and trained Menard person. The rig shall be delivered on a low loader transport with the sundry equipment delivered on a step frame transport.

The equipment shall then be taken to the designated laydown or working area, this is typically our working platform or access road. The laydown area must be level and free from other trades, restricted zones around the equipment should be set up as necessary.

The equipment shall be taken off the wagons by a trained and authorised operator. The container & bowser shall be offloaded in a designated lay down area away from trades and operations. The forks attachment on the boswer is rated at 5t to cover this.

5.3 Rigging of Equipment on Site

The rig shall be rigged up by a trained and experienced operator familiar with that item of plant. This shall be done in accordance with the rigging/de-rigging procedure and operations manual.

The rig must be rigged up on a firm level platform and free from other trades, restricted zones should be set up as necessary.

The rigging up involves the erection of the fixed mast to the vertical position and if required, the fitting of the tooling. No persons must be within 10m of the rig mast when this operation is undertaken.

5.4 Material and Fuel Deliveries

Stone infill aggregate is delivered to site by tipper trucks and stockpiled within or close to the working area within easy access of the wheeled loading shovel. Stockpile locations will be coordinated by the Site Supervisor as the works progress.

Delivery vehicles shall follow the site traffic management plan and be met at the entrance to our working area by the banksman which is identified as the loading shovel operator. The wagon must be banked when reversing to the designated tipping area. Vehicle movements must be kept to a minimum on the working platform.

The back tipper must be lowered immediately after discharging and must not move or leave our working area with the back tipper upright. The tailgate must be secured ready for transit.

Fuel deliveries shall be made direct to the equipment and/or fuel bowser which is fitted with a pump.

5.5 Vibro Stone Column Operations

The working sequence is to be agreed on site between the Menard Site Supervisor and Site Manager.

The ground treatment work involves the installation of vibro stone columns by the dry top/bottom feed process at locations indicated on Menard column layout drawing. Site specific information has been issued to the Site Supervisor in the form of start-up Instructions, these detail the scope of work to be carried out and the specific design / quality requirements for the works.

In preparation for the works, the setting out of key column positions is the responsibility of Morgan Sindall Construction & Infrastructure Ltd, these key positions shall be marked with a bold dot on our column layout drawings. All steel pins must receive protective caps.

Pre-Augering

The working area into which the pre-auger rig will work is to be reviewed with barriers placed intermittently to define the working area.

The pre-auger rig is positioned at the designated column position, a check by the operator shall be done to ensure all persons are out of the restricted zone before the equipment is operated.

The auger is positioned directly over the set out position, a tolerance of 150mm in plan of the intended position shall be worked to.

The pre-auger rig is operated and the flight taken into the ground to the required depth. Once the required depth is achieved through the dense layer, the auger is removed from the hole and the arisings placed to the side of the hole as best possible. Periodic removal of arisings from the auger may be required to avoid any material falling from height.

Arisings are to be removed from the working area periodically by Morgan Sindall Construction & Infrastructure Ltd.

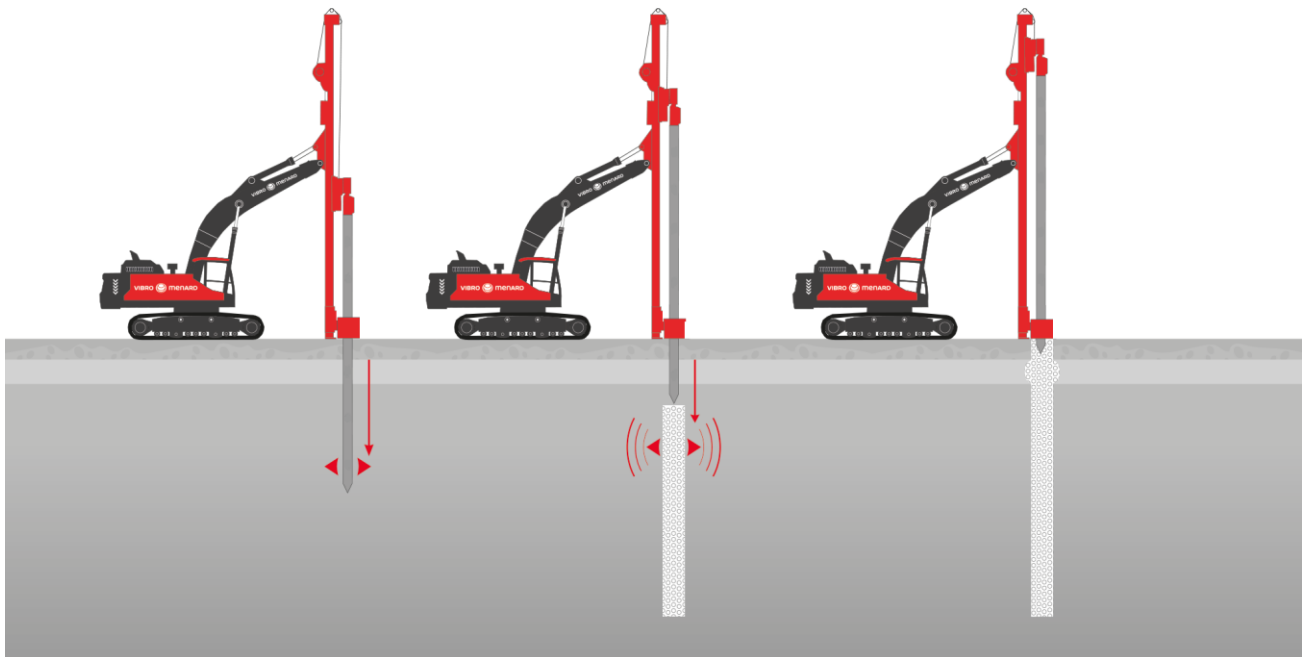
Holes are to be filled by the vibropiling operation within the working day.

The vibropiling rig is set up in the working area and the restricted zones are to be established as set out in section 3.5. Barriers or cones shall be deployed around our working area and at key areas such as access points, between other trades or interfaces. A check that any unauthorised persons are out of the restricted zone must be undertaken by the rig operator. The rig can then be started up in accordance with the operations manual.

The vibroprobe is positioned directly over the set out column position. A positional tolerance in plan of 150mm of the intended position shall be worked to.

The vibrator hammer power is increased to the operating level by the rig operator.

Top Feed System



The vibroprobe is lowered in to the ground and penetrates soils to the required depth, displacing the weaker soils. Upon achieving the required depth the vibroprobe is raised to a level as determined by the rig operator to allow the stone to enter the base of the column.

A charge of stone infill aggregate (75-20mm) is placed into the hole and around the vibroprobe via the loading shovel from platform level. The amount of infill shall be determined by the rig operator in view of the ground conditions that are encountered. The vibroprobe is carefully lowered into the ground and compacts the charge of stone into the base and surrounding soils. The vibroprobe is lifted again to allow another charge of stone to be placed into the hole. The vibroprobe is then lowered to compact the stone in place for the process to repeat itself.

The upper 600mm is generally not heavily compacted due to the poor lateral restraint provided by the upper soil horizon. This zone will either be excavated for the foundation dig or compacted by suitable earthworks equipment for the final preparation of the slab/area.

Should any obstructions be encountered, Menard shall attempt a re-position next to the original position. Any offset shall be marked on our as-built drawing. Where a re-position cannot be achieved, we would require that the obstruction be removed and the subsequent excavation be backfilled with suitable granular material in accordance with our upfill specification.

The loading shovel shall blade off any excess stone from the working area to make level. Where possible the stone shall be re-used if clean. Any contaminated or unsuitable material shall be stockpiled to one side for removal from the working area by Morgan Sindall Construction & Infrastructure Ltd.

Tests shall be performed on completed stone columns at locations as agreed on site between the Menard Site Supervisor and Morgan Sindall Construction & Infrastructure Ltd. The frequency and type is set out by the contract.

Completed working areas shall be handed back over to Morgan Sindall Construction & Infrastructure Ltd once tested and safe to do so.

Upon completion of the works, the equipment shall be parked in a safe position to be collected by the transport.

5.6 Rig Movements

The rig can move without a banksman, only within the restricted zone defined with barriers when accessing column positions in an agreed sequence of works.

Where the rig is required to travel a larger distance >20m, between working areas, on access roads or to the designated loading area; the rig must be moved only with the assistance of a banksman.

5.7 Changing the Vibro Tool & Welding

The vibro tool may be changed on site due to excessive wear or swapping between the TF & BF tool types. In this case, the procedure for changing the vibro tool VM/PROC/4017 must be followed. No unauthorised persons are to be within the restricted zone during this task.

Welding repairs may be required on the vibro tool, in this regard a how works permit will need to be issued to Menard before this work can commence. The equipment will be put in a place of safety to undertake this task.

5.8 De-rigging & Transport of Equipment out of Site

The rig shall be de-rigged by a trained and experienced operator familiar with that item of plant. The tracks of the equipment shall be cleaned practically in the working area prior to placing on the transport.

The plant and equipment shall be loaded on to the transport to the satisfaction of the wagon driver. Items of plant must be made secure and fit for transport on the highways, suitable chains and stops should be used as necessary to secure loads.

A final check of the equipment / plant must be undertaken by the wagon driver prior to leaving site and moving on to the highways.

6. Site Specific Requirements

6.1 Environment

Site Opening Hours are to be: **07:30 to 18:00** hours, Monday – Friday. Menard's working hours are to be: **08:00 to 18:00** Monday – Friday. Out of hours testing requirements are to be arranged in line with the contract requirements.

Morgan Sindall Construction & Infrastructure Ltd must brief site staff and visitors on the site environmental requirements, hazards, and emergency procedure in the site induction. Menard require to be informed of any sensitive flora, fauna, neighbours, or watercourses in which our works may have an impact upon.

Specific environmental considerations with controls on our works are detailed within the environmental risk assessment ENV.01 (Appendix A).

The site must be secured with satisfactory fencing to prevent any unauthorised access.

In the event of a significant environmental emergency, Menard staff are to follow the procedure as set out in VM/PROC/7037(Incident Reporting).

Fuel bowzers will be double skinned and must be positioned a minimum 10m away from any nearby watercourses and drains. Re-fuelling must be undertaken away from watercourses and drains with spill kits made available.

Menard will supply spill kits and be made available within a close distance to equipment and fuel bowzers. In the event of a spillage, spill kits shall be deployed immediately to contain the spill. All spills must be reported internally and to site management. Waste spill kits shall be disposed of either through the site waste management plan or through waste removal procedure under a licensed waste carrier.

Plant nappies shall be placed under all generators and deployed when filling bowzers. They will also be used when undertaking maintenance on the plant.

Oils and fluids shall be stored within the secured stores container on drip trays. Hazardous waste will be transported back to the Menard yard under a waste carriers' licence. A form shall be completed by the Site Supervisor and carrier prior to transferring the waste.

Domestic waste shall be put into skips provided by Morgan Sindall Construction & Infrastructure Ltd. Welfare and working areas shall be kept clean and tidy.

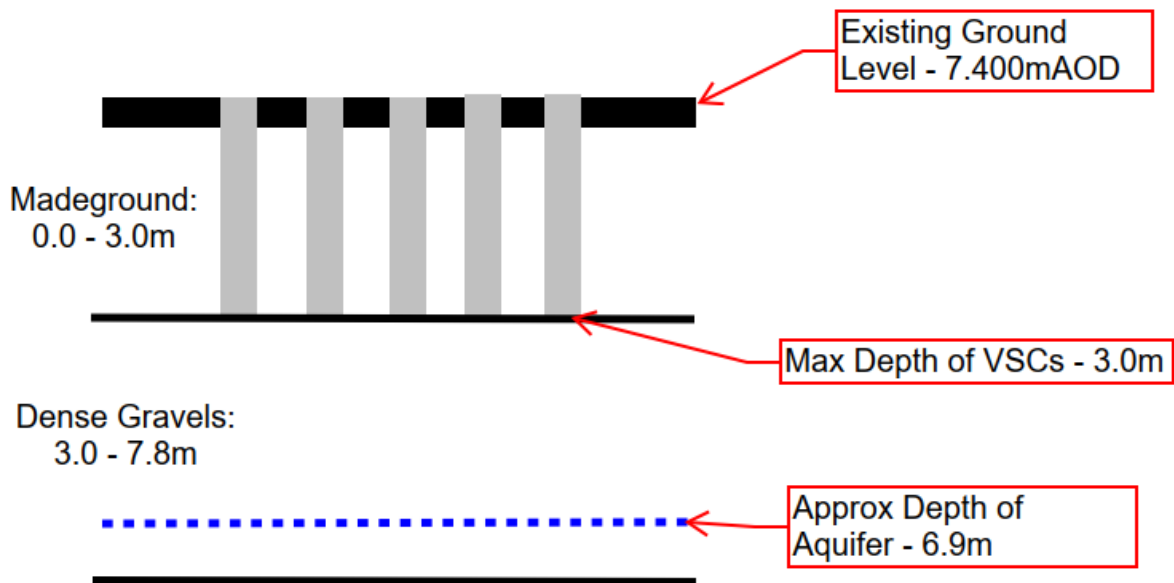
Construction materials required for the works shall be stockpiled within the working area close to the works. Any waste material shall be stockpiled and identified to Morgan Sindall Construction & Infrastructure Ltd for removal.

Dampening down of material stockpiles, working areas and access roads is the responsibility of Morgan Sindall Construction & Infrastructure Ltd to suppress the generation of dust. This must be monitored during our works to prevent dust exposure to workers and to neighbours.

Rig noise assessments are included within Appendix C of this document.

Risk to Aquifer

The secondary aquifer, identified as a potential receptor during the site investigation, is located within the South Wales Middle Coal Measures. Groundwater associated with this aquifer was encountered in one borehole at approximately 6.9 m below ground level (mbgl). The VSCs will be installed to the base of the made ground, which extends to around 3.0 m below the working platform level.



6.2 Access

Access/Egress from the site shall be achieved off Oakland Road.

Morgan Sindall Construction & Infrastructure Ltd must make Menard aware of any weight, height or other access restrictions which may prohibit the safe delivery of our equipment or material deliveries into the site.

Where required, traffic management on the highway is to be implemented and managed by Morgan Sindall Construction & Infrastructure Ltd to allow the safe access/egress of our equipment into site. This is to be put in to place in preparation for the access/egress of our equipment which may require a temporary stop of the traffic.

Should plant be required to offload/load outside the site, all necessary protection measures including traffic management, sheet boards and kerb protection must be provided by Morgan Sindall Construction & Infrastructure Ltd. Road protection should be made available ready for the arrival of our transport and any assessments of the road to be taken in advance. Any required permits from the authorities to enable the access of the equipment in/out of site is to be obtained by Morgan Sindall Construction & Infrastructure Ltd.

Site boundaries and access routes from the highway will be clearly defined and fenced as necessary by Morgan Sindall Construction & Infrastructure Ltd.

Morgan Sindall Construction & Infrastructure Ltd is to provide satisfactory access/egress to our working areas. These routes must be clearly defined and suitable for tracked and wheeled vehicles including our rig and delivery lorries, with segregated pedestrian walkways.

Suitable access and egress shall be installed and maintained for our equipment with ramps no less than a ratio of 1:10. The working platform at the top and base of ramps must be reinforced with a thickness of at least 1.5x the design thickness. Working platforms for our rig must be made at a gradient level no less than a ratio of 1:100.

All sub-surface manholes, chambers etc are to be located, removed, fenced off, remediated, or adequately bridged. Morgan Sindall Construction & Infrastructure Ltd must check for services and obstructions within our working areas (including access) prior to the mobilisation of plant, these must be brought to the attention of Menard.

6.3 Working Area

The working area should be clearly defined, access routes and pedestrian routes to the working area must be advised within the site induction. Any change or deviation to the planned routes must be communicated to Menard immediately as they occur.

Trades must be coordinated on site as such that they do not encroach on working areas, see item 3.5 for restricted zone requirements. The working area for each trade should be clearly identified within the start of shift briefings to Menard and other contractors working on the site.

Morgan Sindall Construction & Infrastructure Ltd must make Menard aware of any known services present within or close to the working area. Any services must be detailed on the permit to break ground along with all necessary precautionary measures and be physically demarcated on site.

Morgan Sindall Construction & Infrastructure Ltd must make Menard aware of any open excavation within a 10m distance, along with putting in place the necessary physical exclusion barriers.

Physical edge protection must be provided by Morgan Sindall Construction & Infrastructure Ltd at the limit of the working platform at the crest of any embankment.

Suitable background lighting is to be in place from the site compound to the working area, as required. Menard shall provide task lighting on the equipment.

Any obstructions encountered should be removed and the remaining void back filled with suitable material in accordance with our upfill specification.

7. Labour, Equipment and Material Resourcing

7.1 Anticipated Menard site labour force:

- 1 no. Site Supervisor
- 1 no. Rig Operator
- 1 no. Loading Shovel Operator
- 1 no. Pre-auger Rig Operator

The Site Supervisor shall be suitably experienced and qualified with SSSTS/SMSTS training.

All plant operators shall possess the relevant CPCS training cards appropriate for that item of plant.

7.2 Equipment supplied to site by Menard:

- 1 no. Vibropiling rig
- 1 no. Wheeled loading shovel
- 1 no. Pre-auger rig
- 1 no. Fuel Bowser
- 1 no. 10ft Stores Container

7.3 Equipment supplied to site by Morgan Sindall Construction & Infrastructure Ltd:

- 1 no. tracked excavator with operator (when required)

7.4 Welfare Provision

Welfare shall be provided to Menard in line with schedule 2 of the Construction (Design and Management) Regulations 2015. This shall include, but not be limited to:

- Sanitary conveniences with washing facilities
- Potable drinking water
- Accommodation for changing, storing, drying clothing and supply of hot and cold water with cleaning products and drying facilities.
- Rest and messing area (including means of preparing food and boiling water plus arrangements to protect non-smokers).

7.5 Deliveries

Deliveries where possible will be made between 08:00 hours and 18:00 hours.

We anticipate that TBC tonnes of stone aggregate will be delivered to site over the duration of the works. Deliveries will be made via tipper trucks and staggered throughout the day to suit the demand of the works.

Wheel washing facilities are to be supplied and operated by Morgan Sindall Construction & Infrastructure Ltd.

8. Quality Control

The ITP (Appendix B) details the key hold/witness points associated with the works.

Stone Infill

Upon delivery, the material will be inspected for suitability by the Site Supervisor in accordance with the specification for stone infill.

Quality Records

Menard shall complete daily report sheets, and these shall be presented to the Site Manager each morning following the completed shift. Information supplied on these sheets shall include;

- Column Reference Number
- Column Depth
- Quantity of Stone Used
- Power Consumption (penetration / compaction)
- Area of treatment reference / plot no.
- Obstructions
- Pre-Auger Used
- Standing time

Load Tests

Testing of the vibro stone column works will be undertaken in accordance with the contract. The location and number of tests shall be determined by Morgan Sindall Construction & Infrastructure Ltd.

Plate Load Tests shall be undertaken in accordance with procedure VM/PROC/4023.

Dummy Footing Tests shall be undertaken in accordance with procedure VM/PROC/4022.

Morgan Sindall Construction & Infrastructure Ltd shall assist with the preparation of the test which may include the excavation of the upper part of column for the test depth.

Where dummy footing tests or zone tests are required, stages of these tests require some out of hours working for which Morgan Sindall Construction & Infrastructure Ltd should accommodate.

APPENDIX A - RISK ASSESSMENTS

Site Specific Risk Assessment
Vibro Stone Columns
Pre-Augering
Site Access and Egress
Rigging/De-rigging
Vehicle Movements
Environmental
Use of Subcontractors or Agency Workers
Overhead Services
Underground Services
Hot Works
Workplace Noise & Ground Borne Vibration
Re-fuelling and fuel/oil storage
Manual Handling
Contaminated Land & Personal Health
HAVS
Plate Load Testing



RISK ASSESSMENT

Contract Name	Port Talbot – Carbon Hub	Contract Number	30360	Date	14/01/2026
Assessed By	AT	Activity	VIBRO STONE COLUMN OPERATIONS		

Score	1	2	3	4	5	Score	Likelihood	Score	Severity	Acceptable Risk	1-6
1	1	2	3	4	5	1	Very Unlikely	1	Minor Injury (No Lost Time)	No further action – Maintain Control	
2	2	4	6	8	10	2	Unlikely	2	Minor Injury (Lost Time)	Adequate Risk Monitor Controls & Review where necessary	7-12
3	3	6	9	12	15	3	Likely	3	Over 7 Day Injuries (Lost Time)		
4	4	8	12	16	20	4	Very Likely	4	Major Injuries	Unacceptable Risk Stop Activities & Improve immediately	13-25
5	5	10	15	20	25	5	Certain	5	Death		

SITE SPECIFIC

Hazard	Persons affected = X			Pre – Control			Control Measures	Post-Control		
	Worker	Other Site personnel	Public	Likelihood	Severity	Risk Rating		Likelihood	Severity	Risk Rating
Nearby Works/Operations	X	X		3	5	15	Morgan Sindall Construction & Infrastructure Ltd to manage and where necessary segregate any other works or Operations local to the working platform area. Menard to cooperate and communicate with Morgan Sindall Construction & Infrastructure Ltd throughout the project. Menard to maintain 20m exclusion zone throughout duration of VSC works.	1	5	5
Potential Obstruction	X	X		3	4	12	Any shallow obstructions should be appropriately removed by Morgan Sindall Construction & Infrastructure Ltd prior to the commencement of works	1	4	4



menARD

RISK ASSESSMENT

RISK ASSESSMENT

VIBRO STONE COLUMNS

Hazard	Persons affected = X			Pre - Control			Control Measures	Post-Control		
	Worker	Other Site personnel	Public	Likelihood	Severity	Risk Rating		Likelihood	Severity	Risk Rating
							GENERAL CONTROL MEASURES All Menard staff have been inducted, trained and authorised to work on this site. All staff have been issued with company standard PPE.			
Vibropiling rig striking personnel in working area.	X	X		2	5	10	No other trades are to be within 20m of the works. This must be communicated to other trades by Morgan Sindall Construction & Infrastructure Ltd. Physical segregation fencing should be used and managed by others around our working area. Any unauthorised personnel entering the Menard working area and the works must stop and reported to the site manager. A restricted zone around the rig is to be established with cones and/or barriers when in operation where only authorised persons can enter or stand during normal operations to undertake specific related activities. Anyone requiring access to the rig must approach from the cab side of the machine giving the rig driver full visibility at a minimum 10m distance. If safe to do so, the driver will then acknowledge by giving a 'thumbs up' to approach. No person to stand within 10m of the rig or vibro tool unless the rig is switched off and isolated with dead man lever down. Under no circumstances must anyone touch or handle the vibro tool under	1	5	5

RISK ASSESSMENT

							operation. Any breach of the restricted zone and the rig operator must stop the machine and the person removed from the restricted zone. Below are the tasks that have been identified where only authorised persons may enter the restricted zone once the rig is in a position of safety: - Re-fuelling & adblue filling - Maintenance and repair to equipment - Daily plant inspections - Setting Out - Witnessing of calibrations / test probes - Start/Stop of mast operation - Removal of arisings - Testing - Banking of rig between working areas - Re-positioning barriers - Training Below are routine tasks that have been identified where only authorised persons may enter the restricted zone when the rig is operational under strict line of communication between the rig operator and authorised person: - Start/Stop of mast operation - Banking of rig between working areas - Training The working loading shovel is permitted to enter the restricted zone when the rig is in operation. A clear line of sight must be made between the operators. For all non-routine tasks, the line manager must be consulted for a further review of the task and control measures that are to be put in place. When working close to other trades or access routes, crowd barriers or cones with beams will be placed			
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RISK ASSESSMENT

							between the trades and around the works to define the extent of the restricted zone. Where the rig must track a distance between working areas, the rig shall be escorted by a banksman (loading shovel operator). A minimum clearance distance of 600mm must be made between the furthest radial point of the rig and any static wall or feature. Physical barriers to be put in to place to prevent unauthorised access into this restricted area. Rig operator must check that persons are clear of rig prior to slewing. Rig must have a valid 12 monthly thorough inspection test certification and daily inspections completed.			
Persons coming into contact with vibro tool	X	X		2	5	10	Under no circumstance must any person touch or handle the vibro tool when in operation. Any approach to the vibro tool within 10m of the rig must be made only once the rig is switched off and acknowledgement from the rig operator given that it is safe to proceed towards the tool.	1	5	5
Loading shovel striking personnel in working area.	X	X		3	5	15	No other trades are to be within 20m of the works. This must be communicated to other trades by Morgan Sindall Construction & Infrastructure Ltd. Physical segregation fencing should be used and managed by others around our working area. Any unauthorised personnel entering the Menard working area and the works must stop and reported to the site manager. Personnel should approach the loading shovel maintaining full view of the operator in view of the travel between stone stockpiles and the front of the rig. This can be some distance depending on the site set up.	1	5	5

RISK ASSESSMENT

							No person to stand within 3m to the side or 8m in front of the loading shovel unless the shovel is switched off and isolated. Below are the tasks that have been identified where only authorised persons may enter the restricted zone once the shovel is in a position of safety with the bucket down: - Re-fuelling & adblue filling - Maintenance and repair to equipment - Daily plant inspections - Removal of arisings - Banking of shovel between working areas - Re-positioning barriers The loading shovel is permitted to enter the restricted zone when the rig is in operation. A clear line of sight must be made. When working close to other trades or access routes, crowd barriers or cones with beams will be placed as required around the works to define the extent of the restricted zone. Shovel must have a valid 12 monthly thorough inspection test certification and daily inspections completed.			
Delivery vehicles striking personnel.	X	X	X	2	5	10	Delivery vehicles must follow site traffic management plan always observing the site speed restrictions. Stone delivery vehicles shall only reverse within our working area and under the direction of the banksman, this generally will be the loading shovel operator. The loading shovel operator / banksman must always	1	5	5

RISK ASSESSMENT

							remain in clear view of the stone delivery driver and give clear hand signals during reversing operations. Ensure that the banksman has a clear line of sight with the driver and must not be in the direct path of the reversing vehicle. Access to the vehicle should only be made when the vehicle has stopped. Where deliveries are made via the site entrance where pedestrians cross. Adequate signage to be provided by Morgan Sindall Construction & Infrastructure Ltd. Driver to take extra caution when entering/egressing site and to adhere to the highway code.			
Delivery vehicles striking structures or features	X	X	X	2	4	8	Delivery vehicles must follow site traffic management plan always observing the site speed restrictions. Stone delivery vehicles shall only reverse within our working area and under the direction of the banksman, this generally will be the loading shovel operator. The rear of the tipper truck must be lowered immediately upon discharging the aggregate within the working area, prior to driving off. Any overhead obstructions or obstructions on the delivery route must be clearly identified by Morgan Sindall Construction & Infrastructure Ltd.	1	4	4
Offloading bowser and stores container from transport	X	X	X	2	4	8	Bowser and stores container to be taken off/on the step frame wagon by the loading shovel. To be attached and lifted with forks or purpose fitted hitch on the container. Operator to be experienced and familiar with loading/offloading operation. Task to be done with the aid of a banksman where the shovel is required to offload/load on the back of the transport. Laydown area for stores container and bowser to be agreed at a position on site that is level, away from	1	4	4

RISK ASSESSMENT

							traffic and fuel bowzers are at least 10m away from water courses.			
Access onto plant delivered on transport	X			3	4	12	Access to the rig on the low loader is to be made from ground level using fixed access steps and handles. A 3 point of contact must be made at all times. Particular care must be taken in wet weather. Access to the shovel must be made from the rear of the transport via the ramps. When accessing to the side of the shovel, the operator must access cab side with hands on the shovel to get to the access door and steps.	1	4	4
Overturning of equipment due to platform failure.	X	X		2	5	10	A working platform must be installed by Morgan Sindall Construction & Infrastructure Ltd to accommodate the rig bearing loads. The working platform must cover the working area (plus 2m beyond footprint), access road, ramps and laydown areas. The success of the platform installation may be validated through testing for which Morgan Sindall Construction & Infrastructure Ltd should arrange in advance of the works. A signed FPS working platform certificate (WPC/4d) must be completed and issued by Morgan Sindall Construction & Infrastructure Ltd prior to work commencing. The working platform is to be monitored during the progress of the works and before each shift to ensure continued suitability. Any issues must be immediately addressed to Morgan Sindall Construction & Infrastructure Ltd. Any maintenance, repair, reinstatement, or modification to the working platform must be recorded on the working platform daily inspection log. The working platform certificate must cover the	1	5	5

RISK ASSESSMENT

							working area, laydown areas, access roads and access ramps. The base of access ramps must be further strengthened as necessary to accommodate the higher bearing pressure imposed by the rig and equipment. The working platform should cover the working area plus 2m beyond. The limit of the working platform should be clearly defined by Morgan Sindall Construction & Infrastructure Ltd. Banksman to review working platform on access routes, access ramps and working area prior to directing movement of rig for a visual assessment. Any visual issues must be immediately addressed to Morgan Sindall Construction & Infrastructure Ltd.			
Vibro tool or parts falling from the rig from height.	X	X		3	5	15	No unauthorised persons to be within 20m of the works when in operation. Authorised persons to be a minimum 10m away from the rig. Only the loading shovel is permitted to access the front of the rig at the vibro tool to deliver stone. Rig must have a valid 12 monthly thorough inspection test certification. Daily/weekly inspections to be undertaken by the rig operator and any non-critical observations / issues be recorded. Any critical issues must be reported to the plant manager for review and appropriate action. The lifting head of the vibroprobe must be securely clamped by the hammer at the set operating pressure. The locking bolt connecting the vibroprobe to the hammer must be in place and fixed secure. If the locking bolt system is not available, a nylon safety strop must be used to restrain the vibroprobe to a fixed point on the hammer.	1	5	5

RISK ASSESSMENT

							When the mast is dropped for maintenance / repairs, a visual inspection should be done by the rig operator and fitter (where present), if not this should be undertaken by the rig operator and site supervisor. All personnel must be a minimum 10m clear from the rig or equipment when rigging/de-rigging. Any persons not involved with the equipment must be kept clear of all rigging/de-rigging operations. No slewing of equipment over person. All tools and accessories must be taken off the rig and stored in an appropriate area when not in use. Rig mast to be checked for loose items prior to lift. Area to be controlled and monitored to prevent unauthorised persons entering area. Only authorised operators that possess a valid CPCS card for the category of the equipment may operate the plant or equipment.			
Vibro tool stuck in the ground at the compaction point	X	X		3	5	15	Stop the engine for a short period. Excavate or pre-auger carefully around vibro tool at both sides to reduce friction. Restart after half an hour and apply force slowly. Do not use excessive force to pull out. The operation must be carried out by a trained and competent person and be supervised at all times.	2	5	10
Removing / attaching the loading shovel bucket. Risk of trapping injuries and pressurised hydraulic oil.	X			2	5	10	Task to be undertaken by a trained and competent operator familiar with the task. To be undertaken in accordance with the operator's manual. Shovel must be switched off before the bucket is removed / attached. When switched off, move tipping	1	5	5

RISK ASSESSMENT

							lever side to side to reduce the hydraulic pressure in the lines before removing quick release hydraulic hose. Do not put hands in pinch points on the bucket when removing / attaching.			
Unauthorised use of Menard plant and equipment.	X	X	X	2	5	10	Only authorised operators that possess a valid CPCS card for the category of the equipment may operate the plant or equipment. Engine switched off and keys to be removed from the machine during breaks / long periods of rest. Site and working area to be kept secure, any unauthorised persons must be advised to keep out of working area. Report any unauthorised persons on site to the site manager immediately.	1	5	5
Slip and trip hazards	X	X		4	2	8	Good housekeeping to be maintained on site, any uneven ground, or loose items to be tidied to avoid accidents. Oil or fluid spills to be cleaned up immediately. Pedestrian routes to be established by Morgan Sindall Construction & Infrastructure Ltd and regularly monitored for clear access and level ground. Working area to be back bladed level by the loading shovel operator once a working area has been completed to make reasonably level.	2	2	4

RISK ASSESSMENT

Dust	X	X		3	2	6	Dust suppression must be employed by Morgan Sindall Construction & Infrastructure Ltd, this may require dampening down of material stockpiles, access routes and working area. Extra consideration must be given to dust leaving the site boundaries that could affect the public. Company PPE must be worn, including safety glasses. RPE (dust masks) to FFP3 must be made available to Menard if the dust becomes a nuisance.	1	2	2
Exhaust fumes	X	X	X	4	2	8	Equipment to be switched off when not in use. Equipment to be operated in open air or well-ventilated premises with sufficient air flow to remove fumes. Respiratory masks to be worn where practical. Regular maintenance to be undertaken on plant to prevent excessive generation of fumes. Persons to avoid standing in path of fumes where possible. Avoid idling of plant, especially close to site boundaries which could affect the public.	4	1	4
Unprotected setting out pins	X	X		4	2	8	All protruding steel setting out pins to receive a protective rebar cap. Positions to be sprayed as necessary.	4	1	4

RISK ASSESSMENT

Fire on site or on Menard equipment	X	X		5	2	10	All Menard operatives to be aware of the site fire plan, including emergency procedures and muster points in the site induction by Morgan Sindall Construction & Infrastructure Ltd. Fire extinguishers to be made available in the cab of the equipment. Only put out fire if safe to do so. Site emergency drills to be conducted on contracts that are 4 weeks or greater in duration. To be undertaken every 4 weeks thereafter. Electrical appliances to be PAT tested every 12 months. Smoking must only take place in designated areas.	5	1	5
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RISK ASSESSMENT

Working at height	X			2	5	10	Where required to access the back of the rig, ensure that good access on to the rig is always allowed with 2 hands on the access ladders. Edge protection must be in place on the rig. When accessing/egressing equipment, 2 hands must be placed on the access ladders when stepping up and down. All open holes must be protected, no open holes must be left overnight. Any excavations must have adequate protection around them. Any site excavation must have physical barriers around them. When working at the top of an embankment, the limit of the working platform must be clearly defined with edge protection as required. PPE must always be worn including safety helmets with fitted chin straps.	1	5	5
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RISK ASSESSMENT

Maintenance and repairs on the rig or equipment	X	X		2	5	10	Maintenance and repairs must only be done by trained and competent persons within their level of skill. The operator's manual must be referred to for general maintenance guidance and safety precautions. Routine maintenance to be undertaken on plant including daily inspections to ensure equipment is working efficiently and to prevent pollution incidents. Where necessary a separate risk assessment should be made detailing the hazards and controls of the maintenance/repair work. A plant fitter sheet should be completed in advance of the work. Where welding is required, a valid hot works permit must be in place, to be issued by Morgan Sindall Construction & Infrastructure Ltd. Maintenance and repairs must be made in designated areas away from site hazards and water courses as practically possible. Drip trays or plant nappies must be used where there is a risk of oil / fluid leaks. A full check on the equipment must be made prior to restarting the equipment and putting back to work. A de-brief from the mechanic to the operator must be made on the work undertaken with any considerations to be made in operation.	1	5	5
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RISK ASSESSMENT

Vibro tool exchange (TF, BF & VCC)	X	X		2	4	8	The operation must be carried out by trained and competent persons and familiar with the task. Procedure for changing vibro tool to be followed (VM/PROC/4017). No other trades are to be within 20m of the works and no unauthorised persons be within 10m of the rig when undertaking a vibro tool exchange. The operation must take place on a firm level working platform covered by the working platform certificate. Cones with beams or barriers to be set up to define the restricted zone. The vibro tool and its connection must be fully inspected for a secure connection and any loose items removed prior to lifting. No persons to be within 10m of the rig when raising the mast.	1	4	4
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RISK ASSESSMENT

Collapse or damage to structures / embankments / earth retaining features, damaged services caused by Vibropiling activity.	X	X	X	3	5	15	Morgan Sindall Construction & Infrastructure Ltd to advise on any structure, feature or service which could be affected by vibrations from the operations under CDM regulations. A site visit should be undertaken prior to works to review any receptors and assess distances. Where structures, features or services are identified at being at risk of damage, Menard would recommend that 21.2.1 non-negligence insurance be sought for our works by Morgan Sindall Construction & Infrastructure Ltd when working within 6m (but not limited to) of structure/service at Morgan Sindall Construction & Infrastructure Ltds decision. Morgan Sindall Construction & Infrastructure Ltd to undertake a dilapidation survey prior to the works. Use of a vibration monitor to assess vibration levels transmitted by the works at given distances. Obtain site specific background vibration levels with monitor away from affected area to gain likely vibration levels. Morgan Sindall Construction & Infrastructure Ltd to provide a PPV level to Menard to work up to during the works. Should the PPV levels be exceeded, the works shall stop, and Morgan Sindall Construction & Infrastructure Ltd consulted for a further course of action. PPV level may be supplied by property or service provider (i.e., Network Rail, English Heritage, Service provider). Where practical, Morgan Sindall Construction & Infrastructure Ltd to dig an isolation trench between our works and the affected structure/feature/service to minimise level of vibrations transmitted. Trench to be dug ideally to a depth relative to the underside of the adjacent foundation / service. Service may be exposed for safety / effective measures. Alternatively, pre-auger positions against structure or feature to minimise duration of vibrations in the ground.	1	5	5
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RISK ASSESSMENT

Equipment repairs and modifications	X	X	X	3	5	15	No modifications are permitted on any equipment without expressed written consent from the plant manufacturer and plant manager. All modifications must be designed and approved before use. Completed modifications must be inspected and checked by a competent fitter / plant manager prior to operation. Repairs on the equipment must only be undertaken by personnel within their field of knowledge. Prior to making any repair, the issue must be reported to the plant manager along with proposed repairs for guidance and approval. No repair or modification on hired plant must be undertaken without expressed written consent from the hiring company. All repairs or modifications to equipment must be recorded on the fitter job sheet.	1	5	5
Items falling off the equipment during transport.			X	2	5	10	The equipment must be checked for any loose items prior to leaving site. All panel doors, access doors, containers, hoses, windows, and cables must be secured prior to leaving site. The transport driver must ensure that a final check of their load is done before leaving site.	1	5	5

RISK ASSESSMENT

Plant and Equipment secured correctly onto transport.	X	X	X	2	5	10	All plant and equipment must be secured correctly to the transport using suitable lashing equipment. The lashing equipment must have the correct rating strain. The lashing equipment must be fitted correctly to either set tether points as identified on the piece of equipment and/or suitable lashing points on the equipment, to be secured to suitable lashing points on the trailer. The rig must be de-rigged and put into transport mode. The slew lock pit must be put in place on the rig when transporting. The transport driver must be satisfied that all plant and equipment is secured on the trailer prior to leaving site.	1	5	5
Contact with hazardous substances such as oils, grease, detergents.	X			2	3	6	All substances must have a COSHH assessments and are available for review within the Works Package plan. Always wash hands before eating or smoking. Any contact with substance with the potential to cause harm, review the data sheet for guidance, notify your line manager or first aider as necessary. Company PPE must be worn, including gloves and safety glasses.	1	3	3
Lone working	X			2	4	8	No lone working is permitted on site. A representative from Menard or Morgan Sindall Construction & Infrastructure Ltd must be present with the worker.	1	4	4

RISK ASSESSMENT

Fatigue	X	X	X	3	4	12	Persons to advise line manager of fatigue experienced to avoid any responsible operation of plant or driving. Long journeys to be managed to allow enough time for operatives to rest. Long journeys should be notified to the Works Manager, Operations Manager and Contracts Engineer to manage and delay any deliveries or expectations for the following morning.	1	4	4
Workplace stress	X	X	X	2	3	6	Discuss any concerns with your line manager to help resolve any stressful situation. If unable to speak with your line manager in confidence, you can speak to the Construction Industry Helpline for assistance on 0345 605 1956, alternatively the company employee assistance programme (EAP) on 0800 3169337. Do not operate any plant if you feel stressed and without concentration on the task.	1	3	3

RISK ASSESSMENT

PRE-AUGERING

Hazard	Persons affected = X			Pre - Control			Control Measures	Post-Control		
	Worker	Other Site personnel	Public	Likelihood	Severity	Risk Rating		Likelihood	Severity	Risk Rating
Overturning of rig due to platform failure.	X	X		2	5	10	A working platform is to be installed by Morgan Sindall Construction & Infrastructure Ltd to accommodate the bearing pressures imposed by Menard's equipment in accordance with FPS recommendations. Testing can be undertaken on the platform to validate the success of the installation as set out in the temporary works design. The working platform should be made level with free draining material, durable to sustain its design life which starts from the delivery of equipment to the completion of the works. A signed working platform certificate (WPC/4d) must be completed and issued by Morgan Sindall Construction & Infrastructure Ltd prior to work commencing covering areas released to Menard. The working platform certificate must cover the working area, laydown areas, access roads and access ramps. The working platform is to be monitored during the progress of the works and before each shift to visually inspect its condition and performance. Any issues must be immediately reported to Morgan Sindall Construction & Infrastructure Ltd. Any maintenance, repair, reinstatement, or modification to the working platform must be recorded on the working platform daily inspection log. Thickness of platform material at the base of access ramps must be increased by 1.5x to accommodate a higher bearing pressure imposed by the rig. The thickness and integrity of the platform at the crest of the ramp must be maintained and repaired as required due to exposure	1	5	5

RISK ASSESSMENT

							to traffic. The working platform should cover the building footprint plus 2m beyond. Where this cannot be achieved, additional precautionary measures including additional testing, inspection of integrity must be done. The limit of the working platform should be clearly defined by Morgan Sindall Construction & Infrastructure Ltd. Any excavation or disturbance to the working platform must be repaired to the temporary works design with further testing as required. Banksman to visually assess the working platform on access routes, access ramps and working area prior to directing movement of rig. Any issues must be immediately reported to Morgan Sindall Construction & Infrastructure Ltd for repair/reinstatement in advance of moving the rig.			
Open Bores	X	X		3	5	15	No other trades are to be within 20m of the works. This must be communicated to other trades by Morgan Sindall Construction & Infrastructure Ltd. Physical segregation fencing should be used and managed by others around our working area. Any unauthorised personnel entering the MENARD working area and the works must stop and reported to the site manager. Intermittent barriers or cones are to be placed around the working area to physically define the restricted zone. No open bores are to be left overnight. Any open holes at the end of the shift must either be backfilled or suitably covered over with cones or barriers as agreed with the site manager. Ensure pre-augering sequence is planned to minimise amount of open holes and infill all holes before the end of the shift.	1	5	5

RISK ASSESSMENT

							No tracking immediately next to, or over open bores.			
Entrapment or entanglement in the moving or rotating auger	X	X		3	4	12	No other trades are to be within 20m of the works. This must be communicated to other trades by Morgan Sindall Construction & Infrastructure Ltd. Physical segregation fencing should be used and managed by others around our working area. Any unauthorised personnel entering the Menard working area and the works must stop and reported to the site manager. A restricted zone around the rig is to be established with cones and/or barriers when in operation where only authorised persons can enter or stand during normal operations to undertake specific related activities. Anyone requiring access to the rig must approach from the cab side of the machine giving the rig driver full visibility at a minimum 10m distance. If safe to do so, the driver will then acknowledge by giving a 'thumbs up' to approach. Under no circumstance must <u>any</u> persons approach within 10m of the auger. Any approach to the auger within the restricted zone must only be done with the acknowledgement of the rig driver and only when the pre-auger operations have ceased and the rig isolated. Below are the tasks that have been identified where only authorised persons may enter the restricted zone once the rig is in a position of safety: - Re-fuelling & adblue filling - Maintenance and repair to equipment - Daily plant inspections - Setting Out - Removal of arisings - Banking of rig between working areas - Re-positioning barriers - Training	1	4	4

RISK ASSESSMENT

							Below are routine tasks that have been identified where only authorised persons may enter the restricted zone when the rig is operational under strict line of communication between the rig operator and authorised person: - Banking of rig between working areas - Training The pre-auger rig can move from position to position without a banksman, only within a defined restricted zone. Barriers must be placed around the working area into which the pre-augering rig will work into. Under no circumstance must any person put their hand into a rotating auger or part of the equipment where entrapment could occur during operation. Where fitted to a masted rig type, guards must be closed around the auger. Strictly no hand cleaning of the auger when in operation.			
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RISK ASSESSMENT

Malfunction or Misoperation of Pre-Auger rig.	X	X		3	5	15	Rig operator must possess a valid CPCS card for the category of plant. Rig operator must have read and understood the operations manual and be familiar with its controls and operation prior to use. Plant daily inspection forms to be completed by the operator, any issues recorded and reported to the plant manager for further advice. At the start of a job, the daily reports must be reviewed by the rig operator and site supervisor prior to use to identify any ongoing issues for consideration. Pre-Auger rig must have a valid 12 monthly thorough inspection test certificate. Visual inspection of the plant before operation by the operatives and prior to mast erection. This should be done by the rig operator and fitter (where present), if not this should be undertaken by the rig operator and site supervisor. Only trained and competent persons are to make the necessary repairs. <u>Environmental Considerations:</u> - Ensure plant, equipment, and its hoses and fittings are regularly inspected. - Ensure spill kits are deployed near all major plant (e.g., rigs) and fuel tanks. See ENV01 risk assessment for further environmental considerations.	1	5	5
Moving Plant	X	X		3	5	15	Where the rig is to be moved between working areas, the rig must be moved with the aid of a banksman. Only trained personnel to be in control of rig. Adequate working area to operate and designated traffic routes to be set up by Morgan Sindall Construction & Infrastructure Ltd.	1	5	5

RISK ASSESSMENT

							A minimum 600mm between the rig at maximum slew radius and any fixed feature on site should be made. Rig operator must check that persons are clear of rig prior to slewing. Physical barriers must be placed at pinch points to avoid any persons entering these areas.			
Removal of auger teeth	X			3	3	9	Only competent persons familiar with the task are to remove the teeth. The pre-auger rig must be switched off and isolated before the removal of teeth can take place. Use a teeth holding bar to hold the tooth whilst the pin is struck with the hammer to avoid hand injuries. Suitable safety gloves must be worn when undertaking this task.	1	3	3
Removal of rebar caught around the auger	X			3	3	9	In the event that rebar is caught around the auger and needs to be removed, the following control measures can be undertaken; 1. Only with the rig isolated; remove rebar by hand with safety gloves and with tooling, only when free and loose to do so. 2. Wrap sling around the rebar at 1 end and fix the other end to a non-movable object. With all operatives out of the way, the pre-auger rig operator starts the pre-auger rig and rotates the auger the opposite way to unwind the rebar from the auger. 3. Rebar to be burnt off by a welder, hot works permit required.	1	3	3
Soils brought to the surface	X	X	X	3	3	9	When pre-augering is identified, a review of the soils must be undertaken to understand the risk of bringing contaminated soils up to the surface. Appropriate control measures must be put into place	1	3	3

RISK ASSESSMENT

							should contaminated material be brought to the surface. This should include protecting the public where the risk of the contamination could be airborne. Arrangements must be put in place to avoid contamination material entering water courses. Arisings must be removed from the working area to a designated stockpile area away from water courses. <u>Environmental Considerations:</u> - Ensure plant, equipment, and its hoses and fittings are regularly inspected. - Ensure spill kits are deployed near all major plant (e.g., rigs) and fuel tanks. See ENV01 risk assessment for further environmental considerations.			
Soils falling from auger at height	X	X		2	4	8	No other trades are to be within 20m of the works. This must be communicated to other trades by Morgan Sindall Construction & Infrastructure Ltd. Physical segregation fencing should be used and managed by others around our working area. Any unauthorised personnel entering the MENARD working area and the works must stop and reported to the site manager. Under no circumstance must <u>any</u> persons approach within 10m of the auger. Any approach to the auger within the restricted zone must only be done with the acknowledgement of the rig driver and only when the pre-auger operations have ceased and the rig isolated. Where a rig with leader mast is used, an auger cleaner should be fitted to remove excess soil off the auger. Where an excavator with suspended auger is used, with removal of all personnel from the working area the auger can be spun under control to remove excess soil. Rig to periodically back spin the auger to remove excess arisings and avoid material travelling at height.	1	4	4

RISK ASSESSMENT

SITE ACCESS / EGRESS

Hazard	Persons affected = X			Pre - Control			Control Measures	Post-Control		
	Worker	Other Site personnel	Public	Likelihood	Severity	Risk Rating		Likelihood	Severity	Risk Rating
Transport cannot physically gain access into / out of site.	X	X	X	3	2	6	Site visit to be undertaken prior to the works to review the access arrangements with Morgan Sindall Construction & Infrastructure Ltd. Where it is observed that access cannot be made in to site and that the equipment has to be taken off on to the highway; traffic management is to be provided by Morgan Sindall Construction & Infrastructure Ltd. All necessary personnel, permits, approvals and protection to the road and kerbs is to be provided by Morgan Sindall Construction & Infrastructure Ltd. The arrival of the transport should be met by Menard personnel to direct and escort as necessary to the designated offloading area.	2	2	4
Transport cannot physically gain access through public roads to the site.			X	3	2	6	Site address to be passed to the transport company for review prior to the movement of the equipment. Any restrictions or concerns to be communicated back to Menard for review with Morgan Sindall Construction & Infrastructure Ltd. Site visit to be undertaken prior to the works to review the access roads and arrangements with Morgan Sindall Construction & Infrastructure Ltd. Consider delivery times. Where it is observed that access cannot be made in to site and that the equipment has to be taken off on to the highway; traffic management is to be provided by Morgan Sindall Construction & Infrastructure Ltd. All necessary personnel, permits, approvals and	2	2	4

RISK ASSESSMENT

							protection to the road / kerbs is to be provided by Morgan Sindall Construction & Infrastructure Ltd.			
Delivery Restrictions			X	3	2	6	All known delivery restrictions should be communicated to Menard and in turn this must be planned with the transport company. Considerations into public interface must be made to avoid disturbance and disruption. Plan times of the day to make deliveries to avoid disruption to the traffic. Avoid peak school hours where possible.	1	2	2
Traffic management required at site entrance to temporarily stop traffic / pedestrians to allow transport to gain entry in / out of site.	X	X	X	4	3	12	Site visit to be undertaken prior to the works to review the access arrangements. Morgan Sindall Construction & Infrastructure Ltd to provide traffic management assistance to temporarily stop traffic / pedestrians whilst accessing site. Where practical, the Site Supervisor should review the access in to site before the arrival of the transport to determine the requirement to temporarily stop traffic to assist access/egress of the transport.	2	3	6
Fumes and congestion generated by delivery wagons	X	X	X	3	2	6	Access/egree arrangements to be made in advance to avoid excessive waiting time contributing to higher fuel consumption and generation of fumes. Equipment NRMM compliant as required. Wagon drivers to switch off engine for sustained periods of waiting.	2	2	4

RISK ASSESSMENT

Equipment tracking on the public highway in to site.	X		X	3	4	12	All necessary personnel, permits, approvals and protection to the road / kerbs is to be provided and put in place by Morgan Sindall Construction & Infrastructure Ltd. All equipment tracked in to site must be undertaken with the guidance of a banksman. The rig operator must be trained and competent. A review of the route in/out of site must be undertaken prior to taking the equipment off the transport. Such considerations into pedestrian routes, overhead/underground services and overhead obstructions should be made. Considerations into public interface must be made to avoid disturbance and disruption. Plan times of the day to make deliveries to avoid disruption to the traffic. Avoid peak school hours where possible.	2	4	8
Inadequate segregation of plant and vehicle access routes from public.	X	X	X	3	4	12	A plant and vehicle management plan to be in place by Morgan Sindall Construction & Infrastructure Ltd detailing the interface with public areas and briefed to all Menard personnel at beginning of works. Morgan Sindall Construction & Infrastructure Ltd to consider making a one way system of traffic around site where possible. Satisfactory security of the site including site hoardings which are of sufficient height and suitable to prevent debris passing over hoarding. Footpaths and roads to be diverted if necessary. Segregated walkways clearly signed and marked. Traffic management system to be in place at the site entrance/exit should this interface with pedestrian walkways.	2	4	8



RISK ASSESSMENT

RISK ASSESSMENT

RIGGING AND DE-RIGGING

Hazard	Persons affected = X			Pre - Control			Control Measures	Post-Control		
	Worker	Other Site personnel	Public	Likelihood	Severity	Risk Rating		Likelihood	Severity	Risk Rating
Equipment falling off transport during loading / off-loading operation.	X	X		2	5	10	Only competent and experienced persons familiar with the equipment are to off-load/load the equipment. The operator must possess valid certificates for the item of plant. Loading of equipment must be undertaken with the aid of a banksman. No other trades / operations in close vicinity. All off-loading/loading must be done on a firm and level platform, this should be covered by the working platform certificate. Where required, wooden sleepers to be used to assist the equipment getting on to the transport. Running boards to be wooden, no metal on metal. Where required, use rubber mats to increase friction between tracks and transport bed. Loading/unloading not to take place near watercourses / flora / fauna. Deliveries to be made in designated areas away from watercourses / surface water drains as practically possible. A review of the loading/unloading area to be made with consideration of neighbours and the external environment. Consideration into the time of day.	1	5	5
Personnel accessing / egressing equipment on the transport.	X			2	5	10	Operator to access/egress the rig and shovel with 2 hands on the guide rails at all times. Do not jump from the transport bed. Foot holds to be in place and clean.	1	5	5

RISK ASSESSMENT

							Access can be made up the ramps of the low loader bed or step frame transport to gain access to the equipment. A hand on the equipment at the edge to be made as an additional measure. Aluminium access steps to be deployed on firm level ground to allow persons to gain better access on to transport and/or on to equipment.			
Failure of equipment during rigging / de-rigging due to malfunction or operator error.	X	X	X	2	5	10	Only competent and experienced persons familiar with the equipment are to rig / de-rig. The rigging/de-rigging must be undertaken in accordance with the operations manual and any additional procedural guidance. All personnel must be 10m away from the rig or equipment when rigging/de-rigging. Any persons not involved with the equipment must be kept clear of all rigging/de-rigging operations. Cones with beams or barriers to be set up to define our restricted zone, these must be a minimum 10m from the furthest radial point of the rig. Rig and equipment must have a valid 12 monthly thorough inspection test certification and daily inspections completed. Only authorised operators that possess a valid CPCS card for the category of the equipment may operate the plant or equipment. All spillages to be cleaned using spill kits and waste to be removed in accordance with the site waste management plan. Where required a competent mechanic to assist with the rigging operation. A plant mechanic point of work assessment to be undertaken prior to work.	1	5	5

RISK ASSESSMENT

Items falling from the rig mast or equipment when raising the mast or moving the equipment.	X	X	X	2	5	10	Rig mast and equipment to be visually inspected for any loose items and these are to be either secured or removed prior to the rig mast being erected or equipment being moved. The visual inspection should be done by the rig operator and fitter (where present), if not this should be undertaken by the rig operator and site supervisor. All personnel must be 10m away from the rig or equipment when rigging/de-rigging. Any persons not involved with the equipment must be kept clear of all rigging/de-rigging operations. Cones with beams to be set up to define our restricted zone, these must be a minimum 10m from the furthest radial point of the rig. Company PPE to be worn by all Menard personnel, including hard hat and safety boots. Any observed spillages must be dealt with with protection to the prevent spillage onto the platform and into the wider environment.	1	5	5
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RISK ASSESSMENT

Overturning of rig, collision or collapse of equipment during rigging / de-rigging operation.	X	X	X	2	5	10	Rigging/de-rigging operation must take place on a level firm working platform covered by the working platform certificate. Any concerns regarding the platform integrity must be reported to Morgan Sindall Construction & Infrastructure Ltd and either the platform be reinstated or an alternative area be used. Rigging/de-rigging to be undertaken away from traffic routes where possible. Satisfactory segregation to be put in place to avoid site vehicles or persons impacting on rigging/de-rigging operation. Only competent and experienced persons familiar with the equipment are to rig/de-rig. The rigging/de-riggin must be undertaken in accordance with the operations manual or procedural guidance. Rig and equipment must have a valid 12 monthly thorough inspection test certification and daily inspections completed. Only authorised operators that possess a valid CPCS card for the category of the equipment may operate the plant or equipment.	1	5	5
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RISK ASSESSMENT

Accessing the rig at height.	X			2	5	10	Where required to gain access on the rig, ensure that 2 hands are placed on the access ladders as a 3-point of contact. Edge protection must be in place on the top of rig when accessing at height. Where access is required on the rig or mast beyond the access points, a MEWP must be used. Where no edge protection is in place on top of the rig, a MEWP must be used. Where a MEWP is required, MEWP RA must be reviewed and in place to be briefed by the site supervisors to all personnel involved. All MEWP operators must hold a valid IPAF card or equivalent and a rescue plan must be put in to place.	1	5	5
Trapping of hands or fingers during rigging / de-rigging operation.	X			3	3	9	Only competent and experienced persons familiar with the equipment are to rig/de-rig. Movement of equipment or parts must be done only when hands and body parts are kept clear of parts/equipment. A clear line of communication must be made by all involved with the rigging / de-rigging operation. Company PPE to be worn by all Menard personnel, including safety gloves.	1	3	3
Contact with hot parts, oils, water or steam.	X			3	2	6	Only competent and experienced persons familiar with the equipment are to rig/de-rig. Where access on hot components are required, do not touch and wait until cooled. Company PPE to be worn by all Menard personnel, including safety gloves.	1	2	2

RISK ASSESSMENT

Contact with pressurised hydraulic oil.	X			2	5	10	Under no circumstance must persons put hands or any body part in the path of pressurised hydraulic oil. Pressure must be reduced prior to working on the hose or component. Any exposure to pressurised hydraulic oil must receive immediate medical attention to ensure that no oil has entered the bloodstream which could cause clotting. Only experienced and competent persons should attempt any repair/maintenance on hydraulic components.	1	5	5
Spillages / leakages of hydraulic oil when rigging/de-rigging	X	X	X	3	4	12	Where necessary ensure the required spill kits, plant nappies are used / placed correctly to minimise spillages and potential leakages to watercourses, flora/fauna and habitats. Undertake rigging/de-rigging away from water courses as practically possible. Dispose of used spill kits responsibly.	1	4	4

RISK ASSESSMENT

VEHICLE MOVEMENTS

Hazard	Persons affected = X			Pre – Control			Control Measures	Post-Control		
	Worker	Other Site personnel	Public	Likelihood	Severity	Risk Rating		Likelihood	Severity	Risk Rating
Moving Site Vehicles	X	X		3	5	15	Plant/Vehicle operators to adhere to the designated access routes within the traffic management plan. Vehicles to adhere to the site safe speed limit. Morgan Sindall Construction & Infrastructure Ltd to set up and maintain vehicle access routes. Adequate pedestrian walkways with physical segregation to be made where practical and in areas of frequent traffic. A 20m works exclusion zone is to be enforced around Menard works. This must be communicated to other trades by Morgan Sindall Construction & Infrastructure Ltd. Cones and barriers to be set up around / limit of works to delineate our exclusion zone. Company standard PPE to be worn, including Hi-Viz top and bottoms. A competent banksman to be in place when vehicle is reversing. Ensure that driver can see banksman when reversing.	1	5	5
Unauthorised Movement of Plant	X	X		3	5	15	Plant operator to operate plant within working area only. Any requirement to travel outside the working area must be done under the guidance of a banksman / loading shovel operator with notice given to other trades as necessary. These routes must be suitable to accommodate the equipment bearing loads and covered under the working platform certificate. Operator/driver must have the appropriate driving license/CPCS competency card for the vehicle being operated	1	5	5

RISK ASSESSMENT

Pedestrians & Vehicles In Close Proximity	X	X		2	5	10	Morgan Sindall Construction & Infrastructure Ltd to set up and maintain vehicle access routes. Adequate pedestrian walkways with physical segregation to be made where practical and in areas of frequent traffic. A minimum clearance distance of 600mm must be made between the furthest radial point of the rig and any static wall or feature. Rig operator must check that persons are clear of rig prior to slewing. Physical barriers must be in place at pinch points to prevent persons entering. Keep route between material stockpiles & work area clear of pedestrians – stockpile to be inside the exclusion zone. Do not overfill loading shovel or excavator buckets. Clear visibility to be maintained by the operator. Plant/Vehicle operators to adhere to the site traffic management plan. Vehicles to adhere to the site safe speed limit. Pedestrians to adhere to the site pedestrian walkways. Audible alarm and rig cameras (where fitted) must be operational on plant. NOTE: Rig cameras to be clean, functioning and used by rig operator. These must not be solely relied on as the main control measure the responsibility to check around the equipment lies with the operator and banksman to communicate with each other for safe plant movement.	1	5	5
Broken Down Plant / Site vehicles	X	X		2	5	10	Drivers must place hazard warning lights on all vehicles when broken down and report to the supervisor. Driver/operator must position himself in a place of safety until help arrives. Operator/drivers must wear hi-visibility clothing when	1	5	5

RISK ASSESSMENT

							outside their vehicle Driver/operator must seek assistance immediately			
Uneven access routes and limits of access road edge	X	X		2	5	10	The condition of access routes must be maintained by Morgan Sindall Construction & Infrastructure Ltd. Any issues must be reported for immediate repair to allow the safe use by plant and vehicles. Where tracking equipment along access routes, these must be covered under the working platform certificate and receive adequate compaction/material to accommodate the bearing loads. The access route must be walked prior to taking equipment over a distance to check and identify any issues (ruts, deterioration, width) prior to tracking equipment across. The limits of the access roads must be clearly defined to prevent vehicles from travelling too close to the edge potentially driving off the edge or shearing the edge of the road making the vehicle/plant unstable. Vehicle stop blocks must be placed at a suitable distance from the edge of any excavation or compaction point. Operators / drivers must be vigilant whilst travelling along access routes adhering to the speed limits and respecting other users.	1	5	5
Loading Shovel Operator Flung from Seat Whilst in Operation	X	X		2	5	10	Loading shovel operator must wear a seatbelt whilst operating the loading shovel. Green indicator light to be working on shovel to indicate that the operator is wearing the seat belt. Shovel operator adhere to site safe speed limits, limit speed to a minimum and pay particular attention to any uneven ground.	1	5	5

RISK ASSESSMENT

Rig Operator moving out of seat in operation	X			2	5	10	Rig speed limited to max 2mph when travelling. Deadman in place that cuts off rig in event of being lifted.	1	5	5
Plant / Vehicles falling in to excavations, water courses or embankments.	X	X	X	2	5	10	Physical barriers to be placed against around excavations, water courses of embankments to delineate the limit of the safe access / working platform. The edge of the access road or platform must be clearly defined and adequately installed and compacted to this limit. An inspection of the platform / access route must be done prior to tracking equipment close to these features. A competent banksman to be used when moving plant along access routes and when close to excavations, water courses or embankments.	1	5	5
Vehicle movements impact on environment.	X	X	X	4	3	12	Generation of dust from vehicle movements to be controlled by PC through fine water sprays to dampen down site. For more guidance refer to ENV 01. Generation of fumes from vehicle movement and equipment used to be managed by reducing travel as reasonably practicable. Delivery times to be managed to avoid standing vehicles at the entrance or on site. Manage equipment / vehicle use to reduce pollution by switching off machines and minimising idling time when vehicles / equipment are not in use. Where possible minimise vehicle movements on and around site to reduce the risk of spoil movement. Refer to ENV 01 for more guidance.	3	3	9

RISK ASSESSMENT

Vehicle movements close to water courses.	X	X	X	3	4	12	Vehicles to not park up / stop too close to watercourses where emissions could contaminate / pollute watercourses, wildlife and the wider environment. Traffic management plan to consider routes to avoid routing next to water courses.	2	4	8
Presence of flora and fauna.	X	X	X	3	4	12	Ensure vehicles are switched off when not in use where flora and fauna is present. Vehicles to remain on designated access routes to prevent any damage or destruction to the flora/fauna.	2	4	8

RISK ASSESSMENT

ENVIRONMENT

Hazard ⁱ	Pathway ⁱⁱ	Receptor ⁱⁱⁱ	Consequence ^{iv}	Pre-Control			Control Measures	Post-Control		
				Likeli-hood	Severity	Risk Rating		Likeli-hood	Severity	Risk Rating
Waste Management	Contaminated runoff / windblown litter / vermin	Surface water/Ground water/Community	Pollution of water course (surface/ground), Litter	3	4	12	- Separate waste types into labelled bins, recycle when possible. - Ensure that we are clear who is responsible for waste disposal on site. - Where waste segregation facilities have been provided these must be used to encourage the recycling of as much waste as possible. - Where waste removal is our responsibility, ensure that the correct waste removal documentation is completed i.e., waste transfer notes for non-hazardous waste and waste consignment notes for hazardous waste. Complete and maintain Site Waste Management Plan (ENV 11)	1	4	4
Plant and Equipment maintenance	Air, Spillage	Surface / Ground Water, Soil, Atmosphere	Soil Contamination, Ground/Surface Water Pollution, and air Pollution	3	4	12	- Designate an area within the site for plant storage and routine / equipment maintenance. Ensure that the area is on hardstanding and is remote from surface water drains as water runoff from plant may include pollutants such as oil. - Carry out regular and appropriate maintenance, inspections, and pre-use checks to ensure the efficiency of plant	2	4	8

RISK ASSESSMENT

				Pre-Control				Post-Control		
							and equipment, and to eliminate pollution incidents e.g., caused by blowouts. • Consignment note is to be completed for disposing of wastes arising from maintenance e.g., special care must be taken when disposing of old filters contain oil which are deemed hazardous. • Prepare for spillages. Display the site's emergency response procedure at the plant maintenance area. Ensure a spillage kit is kept in the plant maintenance area and all personnel know how to use it. • Plant nappies / Rhino pads to be placed for all static plant and under plant where servicing / maintenance is taking place.			
Deliveries	Spillage, Visual	Surface/Ground Water, Soil, Community	Soil Contamination, Ground/Surface Water Pollution, Poor reputation / Company profile	3	4	12	• Deliveries to site should be undertaken in accordance with the logistics and traffic management plan. • Deliveries to be made in designated working areas away from water courses or surface water drains. • Planning should consider peak hour traffic, location next to schools or other businesses. • Delivery drivers must be made aware prior to arrival on site, the requirements for any one-way systems, narrow access, schools, and alternative parking arrangements, if they cannot enter site immediately to	1	4	4

RISK ASSESSMENT

				Pre-Control				Post-Control		
							prevent blocking public access routes. • We must be aware of any FORS or CLOCS requirements which are now being rolled out nationwide as required by either the client or PC. • Ensure quality of materials delivered are checked for quality by a Menard representative prior to acceptance to avoid wastage. • Deliveries to be made timely to avoid idling.			
Storage of Materials and Chemicals	Spillage	Surface/Ground Water, Soil	Soil Contamination, Ground/Surface Water Pollution	2	4	8	• Ensure availability of spill kits. • Dispose of used spill kits responsibly. • Ensure all persons are aware of spill kit locations and deployment. • Prior to arrival on site, it is important to be aware of drainage plans, the location of any sensitive receptors such as water courses and/or site restrictions on the storage of fuel or chemicals. • Material storage should be located away from drains and watercourses. • Materials storage can also encompass IBC's, concrete pumps and drums and washout skips. • Spill kits must be placed at strategic locations around site such as COSHH stores, concrete pumps, re-fuelling locations. Spill	1	4	4

RISK ASSESSMENT

				Pre-Control				Post-Control		
							kit refills should be kept on site and all used spill kits disposed of as COSHH waste. • Use non-toxic paints, solvents, and other hazardous materials wherever possible. • Segregate, tightly cover and monitor toxic substances to prevent spills and possible site contamination. • COSHH registers must be kept and maintained in all COSHH storage areas. • Store materials away from waste storage containers and from vehicle movements that may cause accidental damage. • Store valuable materials, or those that are hazardous or attractive to thieves, in a secure area, out of sight of the public. • Storage and use of perishable items (e.g., cement) should follow the "first in first out" rule.			
Appearance / Housekeeping	Visual	Community, Customer	Poor impression/ company profile	3	3	9	• Ensure that equipment is stored away from traffic movements as far as practicable to reduce the risk of damage causing a potential pollution incident or damage to the products. • Site should be maintained in a tidy and ordered fashion to promote a positive impression to both the PC and local residents. • Areas should be kept clear of wind-blown litter and refuse;	1	3	3

RISK ASSESSMENT

				Pre-Control				Post-Control		
							offices should be cleaned and tidy. • Segregate different types of waste as it produced and arrange frequent removal. • Ensure that there is a wheel washing facility provided on site (by the PC) and that it is frequently cleaned. • Smoking should only take place within the designated smoking areas on site as per the site induction and where possible not directly outside of site entrances/exits or any COSHH stores. • Where contractual agreements permit to promote the quality image of Menard, site containers and equipment should be well presented with correct signage indicating the company name.			
Site run-off	Surface Water Sewer or Ditch	Surface Water (Local River, Brook, Stream)	Pollution of water, Damage to habitat or death to flora/fauna that live in/on the water.	3	4	12	• Locate stockpiles of materials where they will not be washed into waterways or drainage areas. • Surface water runoff from plant may contain pollutants e.g., oils. Prevent their release through regular plant inspections and repair to drains and watercourses. • Use non-toxic paints, solvents, and other hazardous materials wherever possible. • Segregate, tightly cover and monitor toxic substances to prevent spills and possible site contamination.	2	4	8

RISK ASSESSMENT

				Pre-Control				Post-Control		
							• Cover up and protect all drains on site (if possible, by PC). • Place silt screens around spoil heaps if carrying out pre-augering activities to trap silt from any surface water runoff (by PC). • When PC damping down using water to suppress dust, ensure that the application does not create excessive mud that can runoff into watercourses.			
Inadequate bunding around tanks	Surface Water Sewer or Ditch	Surface Water (Local River, Brook, Stream)	Pollution of water, Damage to habitat or death to flora/fauna that live in/on the water.	3	4	12	• Ensure tanks are bunded with a minimum capacity of 110% of the volume of the largest tank or 25% of the total storage capacity, whichever is the greater. • Do not allow bunded areas to fill with rainwater. Empty and dispose of any water collected in an appropriate way. • The bund should be impermeable to the substance that is being stored in the tank. • Inspect bunds at least once a week to ensure their integrity. If you find damaged bunds, repair, or replace them immediately. • Ensure fill points are inside the bund.	1	4	4
Flooding	Surface Water Sewer or Ditch	Surface Water (Local River, Brook, Stream)	Pollution of water, Damage to habitat or death to flora/fauna that live in/on the water.	3	3	9	• Protect stores from flood damage or inundation. Ensure COSHH materials are kept well away from watercourses and areas prone to flooding on site. • PC to avoid stripping large areas of site and minimise the areas exposed of soil. Keep soil exposed for as short time as possible. This will minimise the	2	3	6

RISK ASSESSMENT

				Pre-Control				Post-Control		
							amount of silt laden run-off which will minimise blocked drains. • PC to consider having swales or retention ponds on flood prone sites.			
Vandalism	Surface Water Sewer or Ditch	Surface Water (Local River, Brook, Steam)	Pollution of water, Damage to habitat or death to flora/fauna that live in/on the water.	3	4	12	• Ensure valuable plant/equipment and COSHH materials are kept away from public view as reasonably possible. • Fuel bowsers and stores to be sited away from water courses as practicably possible. • Storage system valves, taps, hatches or lids and delivery hoses should be fitted with locks and locked when not in use. Where possible materials should be stored in secure containers. • Where possible immobilise plant and equipment overnight.	2	4	8
Fire and contaminated water escaping into the local watercourse or ground	Surface Water Sewer or Ditch	Surface Water (Local River, Brook, Steam)	Pollution of water, Damage to habitat or death to flora/fauna that live in/on the water.	3	5	15	• Ensure all nearby drains are sealed by PC were reasonably practicable. • Where possible prevent contaminated water entering the ground by using covers and barriers or liners. • Ensure that any suspected contamination is characterised and initiate remedial action plan. If contaminated water has entered the ground, consider physical separation of contaminants from the rest of the soil should be considered.	2	5	10

RISK ASSESSMENT

				Pre-Control				Post-Control		
Washout of Concrete Wagon	Surface Water Sewer or Ditch	Surface Water (Local River, Brook, Steam)	Pollution of water, Damage to habitat or death to flora/fauna that live in/on the water.	3	3	9	- Ensure that there is a designated concrete wagon washout area which is at least 10m away from watercourses and drains. - Concrete washout water must be disposed of in accordance with the PC site waste management plan. This may involve being taken away by tanker to be adequately treated and disposed of. - Concrete wash out waste can either be broken out and re-used into the working platform or disposed of in line with the site waste management plan.	2	3	6
Cleaning the concrete pump & hoses	Surface Water Sewer or Ditch	Surface Water (Local River, Brook, Steam)	Pollution of water, Damage to habitat or death to flora/fauna that live in/on the water.	3	3	9	- Ensure plant, equipment, and its hoses and fittings are regularly inspected. - Ensure spill kits are deployed near all major plant (e.g., rigs) and fuel tanks. - Waste concrete to be broken up later and used in the working platform or disposed of in accordance with the site waste management plan. - Concrete pump to be cleaned and washed out away from water courses.	2	3	6
Washdown Area e.g., vehicle wheel wash facilities, welfare cleaning	Surface Water Sewer or Ditch	Surface Water (Local River, Brook, Steam)	Pollution of water, Damage to habitat or death to flora/fauna that live in/on the water.	3	3	9	- Washdown facilities must be considered by the PC in view of the trades on site. - The effluent from washout areas must not be discharged to surface water systems and should be removed to a foul sewer (with the consent of the	2	3	6

RISK ASSESSMENT

				Pre-Control				Post-Control		
							local water authority) or taken away by tanker to be adequately treated and disposed. - Consider recycling the washout for reuse on site and the recover silts to be separately removed as waste. - Facilities should be provided to allow site personnel to clean their boots before leaving site or entering site offices. The silty water from these facilities should be dealt with in the same way as the vehicle washing effluent.			
Generation of noise/vibration from plant and equipment	Air transmission	Wildlife, Local community, Visitors, Customer Reps etc.	Nuisance, hearing damage, disturbance of wildlife.	4	3	12	- PC to determine whether Planning Conditions apply. - Section 61 consent conditions. - Site hours, quiet periods. - Local residents and businesses should be made aware of any works which may create disruption during our works (PC responsibility). - Reduce noise pollution through careful handling of materials; modern, quiet power tools, equipment, and generators; low impact technologies (where available).	3	3	9
Generation of dust from.....e.g., vehicle movements	Disturbance of loose material into the air	Air, Local community	Air Quality	4	3	12	- PC to control dust through fine water sprays used to dampen down the site. - PC to cover open skips with construction materials and continually damp down with low levels of water.	2	3	6
Generation of light	Light emissions from plant	Local community	Light Quality	3	2	6	Position of lighting to be reviewed in respect to neighbours and / or sensitive	2	2	4

RISK ASSESSMENT

				Pre-Control				Post-Control		
							operations (i.e., Network Rail). • Lighting to be switched off when not in use.			
Generation of fumes from Vehicle movement & equipment use	Emission to air	Local air pollution	Air Quality, Climate Change	4	3	12	• NRMM compliant (where applicable). • Manage vehicle movements to reduce travel as reasonably practicable. • Manage equipment use / sequencing to reduce emissions. • Switch off vehicle/equipment when not in use for long periods of time.	3	3	9
CO2 emissions from diesel/petrol plant and equipment	Air	Atmosphere	Increased concentration of CO2 in the Atm. Climate Change.	4	3	12	• Where available and reasonably practicable, alternative means of powering the welfare facilities. • Power units with site feed where available. • Switch off equipment when not in use for long periods of time. • Use of HVO fuels where available.	3	3	9
Concrete Cube Storage (Use of diesel generator)	Air	Atmosphere	Increased concentration of CO2 in the Atm. Climate Change.	4	3	12	• Where available and reasonably practicable, alternative means of powering the welfare facilities. • Power units with site feed where available.	3	3	9
Power for Welfare cabins and drying rooms (Use of diesel generator)	Air	Atmosphere	Increased concentration of CO2 in the Atm. Climate Change.	4	3	12	• Where available and reasonably practicable, alternative means of powering the welfare facilities. • Power units with site feed where available.	3	3	9
Presence of protected fauna (wildlife).	Physical Chemical Damage from Site activities.	Fauna	Habitat Destruction	3	4	12	• PC to advise on working areas and segregate works respecting protected areas. • PC to advise on any protected	2	4	8

RISK ASSESSMENT

				Pre-Control				Post-Control		
Protected Species of site of special scientific interest (SSSI)							species which may be present on site or locality within site specific induction (i.e., great crested newts). • Working areas to be clearly defined with physical segregation. • If any wildlife observed in the working area, works must stop, and incident reported to the PC for further advice. • Any nesting birds on equipment and the rig must not be moved. PC consulted for further advice.			
Presence of protected flora (plants) Protected Species of site of special scientific interest (SSSI)	Physical Chemical Damage from Site activities.	Flora	Habitat Destruction	3	4	12	• PC to advise on working areas and segregate works respecting protected areas. • Working areas to be clearly defined with physical segregation.	2	4	8
Contaminated ground	Spoil being brought to the surface from the drilling activities	Human, Air, Surface Water Run off	Impact on human health, contamination of ground/surface water	3	4	12	• Sites that have had previous industrial occupation should be assumed to be polluted, and tests undertaken by the PC to ascertain the types of pollutant and their levels of concentration. This should be detailed within the site investigation report. • The contract documentation and planning conditions for a project will identify known contamination of the site and the agreed methods for dealing with it. • A review of the technique used needs to be done to reduce the exposure of contaminants to	2	4	8

RISK ASSESSMENT

				Pre-Control				Post-Control		
							people, wildlife, and wider environment. • If our works consists of working with contaminated land, ensure this is covered in our method statement. A contaminated land risk assessment is completed, and the control measures are implemented. • Ensure everyone involved in the work are made aware of the contamination as they must be briefed on the method statement and risk assessment. • Specialist PPE, equipment and working conditions may apply to protect personnel and the wider environment. • Where spoil can arise due to pre-augering activities, when necessary, actions must be carried out to reduce the exposure to people, wildlife, watercourses, and wider environment (i.e., silt screens to be placed around spoil heaps by PC).			
Presence of aquifers	Contaminants leaching into underlying aquifers	Natural water course	Impact on human health, contamination of ground/surface water	3	4	12	• A review of the site investigation to be undertaken to identify the presence of underlying aquifers that may be affected by our works. • A selection of the appropriate technique to be made to reduce the risk of pathways for contaminants to enter the aquifer. • Site controls to be made to avoid penetration into the aquifer.	2	4	8

RISK ASSESSMENT

				Pre-Control				Post-Control		
				3	4	12		2	4	8
Presence of heritage / listed buildings or features	Vibration or physical damage	Buildings or features	Damage to historic buildings / features				- Review of the distances between working areas and heritage / listed buildings or features. - Consider vibration monitoring against sensitive features.			
Information, Instruction, and training	TBT, Start of Shift Briefing, Formal Training			3	2	6	- The Company Environmental policy is to be displayed in the site induction folder pack. - The Environmental risk assessment will form part of the site induction and method statement briefing. - Environmental campaigns are run quarterly to provide information on spill response, storage of materials and waste disposal. - Emergency drills are run on every site running for longer than four weeks. These include environmental drills. - The Works Manager shall review staff training against the training matrix to ensure all appropriate team members have received their environmental training. Appropriate action should be taken to fulfil the training requirements.	1	2	2

RISK ASSESSMENT

USE OF SUBCONTRACTORS OR AGENCY WORKERS

Hazard	Persons affected = X			Pre - Control			Control Measures	Post-Control		
	Worker	Other Site personnel	Public	Likelihood	Severity	Risk Rating		Likelihood	Severity	Risk Rating
Subcontractors unaware of site hazards, rules and familiarisation of policies, process and equipment.	X	X		2	4	8	All subcontractors to receive a site induction from Morgan Sindall Construction & Infrastructure Ltd. All subcontractors shall receive a 'new starter/agency worker' induction from the Site Supervisor or management representative. They shall also receive a start of shift briefing prior to commencing works. Subcontractors to be issued a Menard 'subcontractor/agency workers induction booklet'. All competency cards of the agency worker or subcontractor must be checked prior to commencing work. A check by the Site Supervisor that the subcontractor or agency worker has the mandatory PPE required for the task.	1	4	4
Subcontractor working in an unsafe manner.	X	X		2	4	8	Subcontractor method statements / risk assessments to be reviewed prior to subcontractor commencing works on site. Subcontractors to comply with CDM regulations 2015. Ensure that adequate supervision is in place for works. Periodically review the subcontractors and agency working methods. If any unsafe or unsatisfactory working is observed, works must stop and be reviewed. This may involve a review of method statements, re-briefing or if in breach of site or statutory rules; a warning or removal	1	4	4

RISK ASSESSMENT

							from site.			
Poor workmanship	X	X		2	3	6	Review method statements and periodically review working methods for compliance. Obtain all necessary quality reports. Ensure that the subcontractor holds valid insurance relevant to the works / equipment.	1	3	3

RISK ASSESSMENT

OVERHEAD SERVICES

Hazard	Persons affected = X			Pre – Control			Control Measures	Post-Control		
	Worker	Other Site personnel	Public	Likelihood	Severity	Risk Rating		Likelihood	Severity	Risk Rating
Overhead Services	X	X		2	5	10	Any overhead services within 10m of our working area must be reviewed by Morgan Sindall Construction & Infrastructure Ltd in accordance with HSE Guidance Note GS6. If possible the overhead services should be switched off. If not possible to switch off, A permit should be provided to Menard detailing the location and minimum exclusion zone of the overhead service. When required to work near overhead services, a minimum safe working distance of 6m (or advised by the service provider) should be made with physical barriers to define this exclusion zone. Morgan Sindall Construction & Infrastructure Ltd should obtain the voltage and safe clear distance from the service provider. If plant or equipment is required to pass under overhead services, the maximum safe passing height must be established by Morgan Sindall Construction & Infrastructure Ltd based on the minimum exclusion zone from the nearest overhead line. This exclusion zone must be obtained from the service provider. Physical barriers and goal posts should be used to define the maximum height at a minimum 6m away from the nearest line (or advised by the service provider). Ensure that the rig mast is lowered prior to travelling under overhead services, a banksman must be used. If working under overhead services, Morgan Sindall	1	5	5

RISK ASSESSMENT

							Construction & Infrastructure Ltd must obtain a minimum working height to be between our equipment and the lines. In accordance with HS6, the minimum extent of the exclusion zones must be adhered to: low-voltage line – 1 m 11 kV and 33 kV lines – 3 m 132 kV line – 6 m 275 kV and 400 kV lines – 7 m <u>In any case, these must be checked with the service provider in advance of the works.</u> Works must be undertaken with a banksman and no lifting / extending beyond the maximum working height. Where appropriate erect physical barriers, signage and goal posts to allow plant to safely cross underneath or where working in the vicinity to highlight the potential risk. Do not store equipment or materials underneath the services nor within the exclusion zones.			
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RISK ASSESSMENT

RISK ASSESSMENT

UNDERGROUND SERVICES

Hazard	Persons affected = X			Pre – Control			Control Measures	Post-Control		
	Worker	Other Site personnel	Public	Likelihood	Severity	Risk Rating		Likelihood	Severity	Risk Rating
Underground Services	X	X	X	3	5	10	All relevant information regarding the presence of underground services within or close to (<6m) our working areas must be provided to Menard prior to mobilisation. Service layout drawings to be obtained, checked and issued by Morgan Sindall Construction & Infrastructure Ltd. A method of working in close proximity to any services to be discussed with Menard. Where services are known, the precise location of services affected by our operations must be physically identified on site. Assume all services are live unless notification is given by service provider. Morgan Sindall Construction & Infrastructure Ltd to CAT scan working area to be satisfied that none are present within working area. Particular care should be taken with working areas are directly next to footpaths / boundaries. Where our works are required within 6m (not limited to) of an existing service, we would require to understand the type of service and would recommend that 21.2.1 non-negligence insurance be sought for our works by Morgan Sindall Construction & Infrastructure Ltd. Morgan Sindall Construction & Infrastructure Ltd to undertake a dilapidation survey prior to the works. Consideration into the diversion, grouting up or exposure of services to be taken by Morgan Sindall Construction & Infrastructure Ltd. A permit to break ground must be completed by Morgan Sindall Construction & Infrastructure Ltd and issued to the Menard Site Supervisor prior to the commencement of the works. All known services are	2	5	5

RISK ASSESSMENT

							to be identified on the permit and physically identified on site, protected (as required) by Morgan Sindall Construction & Infrastructure Ltd for the duration of our work. The permit must specify the areas and gridlines that Menard are authorised to work in. Service location drawings should be obtained and checked by Morgan Sindall Construction & Infrastructure Ltd prior to signing off the permit. All necessary CAT scanning of the working area is the responsibility of Morgan Sindall Construction & Infrastructure Ltd. The permit shall remain valid for a recommended period of no more than 5 working days. Once the permit has expired or the works are completed, the permit must be closed by Morgan Sindall Construction & Infrastructure Ltd and if required, a new permit issued. The setting out of positions should not proceed until a permit to dig has been issued.			
Creation of discharge through contact with services causing flooding and/or waste run off.	X	X	X	2	4	8	Permit to dig to be completed and services physically identified to prevent accidental damage to services that could cause the potential to pollute or flood the site. Review control measures above. Morgan Sindall Construction & Infrastructure Ltd should review the works in such proximity and have a plan to understand the shut off valves for water supplies. Refer to RA ENV01 for further precautions.	1	4	4



menARD

RISK ASSESSMENT

RISK ASSESSMENT

HOT WORKS

Hazard	Persons affected = X			Pre – Control			Control Measures	Post-Control		
	Worker	Other Site personnel	Public	Likelihood	Severity	Risk Rating		Likelihood	Severity	Risk Rating
							General Control Measures · All personnel have been inducted, trained and authorised to work on this site. · All personnel have been issued with company standard PPE. · Additional task specific PPE will be identified and supplied. · A valid Hot Works Permit (Menard or client's permit) to be issued to operatives undertaking works. The permit must be closed out after the hot works task has been completed.			
Welding works causing fire	X	X	X	2	4	8	Fire extinguishers to be provided before works commence, and to be at hand throughout duration of works. Good housekeeping standards are to be maintained at all times to prevent flammable materials igniting. Fire watch to be conducted after works have been completed. All flammable substances and materials to be stored correctly. Flammable substances and materials to be stored away from sources of heat.	1	4	4

RISK ASSESSMENT

							Minimal quantities of flammable substances and materials to be stored on site. Flammable gases and liquids should not be mixed. Refer to the Client or the H&S Department for safe segregation distances. Suitable PPE must be worn including overalls, suitable flame retardant gloves and specialist welding masks with positive air feed.			
Explosion	X	X	X	3	5	15	All flammable substances and materials to be stored correctly. Flammable substances and materials to be stored away from sources of heat. Minimal quantities of flammable substances and materials to be stored on site. Flammable gases and liquids should not be mixed. Refer to the Client or the H&S Department for safe segregation distances.	1	5	5
Harmful gases	X	X	X	3	5	15	Hot works must be undertaken away from other works, trades and the public. Suitable area to be identified on site for the task. Forced air masks RPE must be used for the welding task. A check on the mask and that positive air pressure is achieved prior to undertaking the task. Where possible all hot works to be undertaken in the open air. Avoid undertaking welding works within a confined area, ensure that there is good air circulation.	1	5	5

RISK ASSESSMENT

							Extractors or local exhaust ventilation to be used when natural ventilation is not possible.			
Transfer of heat.	X	X		3	5	15	Where possible all hot works to be undertaken in the open air. Walls and partitions to be cooled with water before, during and after hot works. Hot works within building should be done away from partition walls. Regular check of possible transfer routes to be undertaken and checks to be completed a minimum of 1 hour after work finishes.	1	5	5
Burns to the welder or other workers' skin or eyes during hot works from sparks/direct heat.	X	X		4	4	16	All staff to wear suitable eye protection such as high impact goggles for grinding/cutting or welding screens during welding operations. Screens to be used during welding to prevent arc eye type injuries to other workers. Exclusion zones to be erected around work area.	1	4	4
Untrained / unauthorised use of equipment	X			4	4	16	All persons to be fully trained and competent to undertake hot works. Only authorised persons to undertake hot works on site.	1	4	4
Manual handling injuries	X			3	3	9	All personnel have been trained in manual handling training techniques. Where possible, mechanical means of lifting should be used in place of manual handling.	2	3	6

RISK ASSESSMENT

							Items of hot works equipment should have appropriate lifting and carrying handles. Individuals to make assessment of weight prior to manual handling. Where weight exceeds individual capacity, team lifting should be considered.			
Contact with other plant or equipment when conducting hot works	X	X		4	5	20	When staff are conducting hot works, they should be clear of vehicle traffic and be working within an exclusion zone. If staff are required to bend or stoop to complete hot works, they should have suitable barriers or signs to alert others of their presence.	1	5	5
Damage to eyes from welding works	X	X	X	3	4	12	Welding screens to be set up and managed around the welding task to prevent harmful light being seen by others around. Welder must wear suitable mask which reduces the light onto the eyes. Set up welding area away from busy areas, access points and close to boundaries which could affect the public.	1	4	4
Damage to fauna or flora			X	3	4	12	Undertake hot works within site and away from site boundaries where wildlife could be harmed. Any observed wildlife and the task must cease, and the welding area reviewed. Undertake hot works within site and away from flora which could get harmed.	1	4	4

RISK ASSESSMENT

WORKPLACE NOISE AND GROUND-BORNE VIBRATION

Hazard	Persons affected = X			Pre - Control			Control Measures	Post-Control		
	Worker	Other Site personnel	Public	Likelihood	Severity	Risk Rating		Likelihood	Severity	Risk Rating
Workplace Noise	X	X	X	4	4	16	As a standard precaution, hearing protection must be worn when within 15m of the working equipment. Noisy areas or items of plant where persons have to raise their voices to speak to someone 1m away shall be designated as possible hearing damage areas. These noisy areas should be accurately defined and identified to site operatives within the site specific induction along with all control measures to mitigate exposure. Menard generates noise with the work operations and this is typically around the Menard rig and equipment. The persons at risk are Menard operatives, other site operatives and where applicable, the public. Morgan Sindall Construction & Infrastructure Ltd must inform Menard of any section 61 construction noise requirements. When notified that works are within a noise sensitive environment, further noise control measures should be considered, these include closing plant engine covers and removing personnel from around working area with exclusion zones. Further measures erecting noise barriers, placing noise producing equipment behind plant to reduce direct noise exposure etc. If high level noise cannot be engineered away as a last resort solution ensure persons exposed to noise be provided with and use suitable ear protectors in the form of plugs or muffs. The plugs and muffs must be properly maintained and replaced as necessary.	2	4	8

RISK ASSESSMENT

							Items of plant to have a noise assessment, details of which are found within the Works Package Plan. The assessment provides sound guidance on sound levels recorded at given distances, the steps to be taken are as follows; The lower exposure level is 80db, for which hearing protection must be made available. The upper exposure level is 85db, for which hearing protection must be worn.			
Ground borne vibration	X	X	X	4	3	12	Morgan Sindall Construction & Infrastructure Ltd to consider the proximity of structures, features or services adjacent to Menard works. If within 6m of the vibropiling works, control measures should be considered to reduce vibrations against it. Vibration sensitive structures, features or services must be considered further. We would recommend that 21.2.1 non-negligence insurance be sought for our works by Morgan Sindall Construction & Infrastructure Ltd. Use a vibration monitor to assess vibration levels transmitted by the works at given distances / boundary. Obtain site specific background vibration levels with monitor away from affected area to gain likely vibration levels. Morgan Sindall Construction & Infrastructure Ltd to provide a PPV level to work up to during the works. PPV level may be supplied by property or service provider (i.e. Network Rail, English Heritage, Service provider). Where practical, Morgan Sindall Construction & Infrastructure Ltd to dig an isolation trench between our works and the affected structure/feature/service to minimise level of vibrations transmitted. Trench to be dug ideally to a depth relative to the underside of the adjacent foundation/service. Service may be exposed for safety and effective measures. Pre-Auger positions against structure/feature to minimise duration of vibrations in the ground.	2	3	6

RISK ASSESSMENT

Generation of noise / ground borne vibration from plant and equipment and it's affect on environment			X	4	3	12	Morgan Sindall Construction & Infrastructure Ltd is to determine whether planning conditions apply. Local residents and businesses to be made aware of any works which may create disruptionsby Morgan Sindall Construction & Infrastructure Ltd. If noise emissions could cause pollution, a noise impact assessment should be completed by Morgan Sindall Construction & Infrastructure Ltd. Reduce noise pollution through careful handling of materials, use modern quiet power tools and low impact technologies where applicable. Refer to ENV 01 for more guidance for plant / equipment.	3	3	9
Impact of noise on SSSI / natural reserve			X	4	3	12	Consider noise impact on habitats. Lower frequencies of noise to be considered to protect species with sensitive hearing. If necessary, Morgan Sindall Construction & Infrastructure Ltd is to have a noise management plan (NMP) and to consult environmental agencies. For more guidance please refer to: https://www.gov.uk/government/publications/noise-and-vibration-management-environmental-permits/noise-and-vibration-management-environmental-permits	3	3	9

RISK ASSESSMENT

RE-FUELLING AND FUEL/OIL STORAGE

Hazard	Persons affected = X			Pre - Control			Control Measures	Post-Control		
	Worker	Other Site personnel	Public	Likelihood	Severity	Risk Rating		Likelihood	Severity	Risk Rating
Re-Fuelling	X	X		2	5	10	All oils/fuels/substances must be kept in the correct type of container that is clearly identified and labelled. No refuelling is to take place in the vicinity of any forms of ignition. Engines must be switched off and no use of mobile phones. Ensure that no other persons or trades are present within 5m of the re-fuelling operation. Do not use improvised containers or funnels. i.e old oil drums, water fountain containers. Use mechanical fuel pump on rig, if unavailable re-fuelling can be done manually with suitable hand pump. Re-fuelling must be undertaken away from any watercourses. Fire extinguishers and spill kits to be made available close to operation. Before any refuelling / use of oils and lubes takes place, suitable spill kits, plant nappies or drip trays must be available and placed below the re-fuelling point of the plant or vehicle being refuelled. Refuelling to be carried out in a well-ventilated area only. Company PPE to be worn including protective gloves and safety glasses. COSHH registers must be kept and maintained in all COSHH storage areas.	1	5	5

RISK ASSESSMENT

Noxious Gases And Fumes	X	X		2	5	10	Re-fuel or decant outside in a well ventilated area. To eliminate a surge of fumes or vapours, fuel caps or lids are to be removed slowly and at arm's length to release any build up of pressure slowly. Once the pressure has been released the product can then be handled. Company PPE to be worn including protective gloves and safety glasses. As a minimum, Impervious gloves, and footwear, suitable clothing to protect the skin, and eye protection must be worn when handling chemicals or substances. Ensure washing facilities are available including eye wash and clean water. Respiratory PPE to be used as necessary. Personnel to be face fit tested. Refer to COSHH data sheets for relevant details. Over exposure to fuel or gasses must be reported to site supervision. COSHH registers must be kept and maintained in all COSHH storage areas. Review location of using substance to reduce/remove risk of exposure to public.	1	5	5
Fire and Explosion	X	X		2	5	5	No Smoking within or around refuelling points. Remove heat sources away from refuelling points. No storage of other chemicals or hazardous substances near to refuelling points. All fuels to be kept in the correct type of container as specified by fuel provider and banded. A review of the COSHH data sheet to be done to store correctly.	1	5	5

RISK ASSESSMENT

							Combustible materials are not to be stored near to refuelling points. Firefighting equipment to be located near to refuelling point.			
Accidental Spillage	X	X	X	2	1	2	All bulk fuel storage in large capacity tanks with bund walls must be double skinned and have lockable delivery points and locked when not in use. All hoses to be kept within the bowser when not in use. Any mobile fuel bowsers must be twin axled. Any spillage must be reported immediately to site supervision. Spill kits should be deployed immediately to absorb spilt oils. Any significant environmental incidents must be reported following SAF PRO 9 (CAI). Avoid re-fuelling close to drains or water courses. Plant nappies / Rhino pads must be used when re-fuelling equipment or bowsers. Spill kits must be made available with items of plant. Plant nappies to be available with large items of plant. Oils, grease and other contained substances to be contained within Menard stores container. Drip trays to be present within container. Suitable waste bins are positioned for waste disposal by Morgan Sindall Construction & Infrastructure Ltd. Refer to ENV01 risk assessment for further guidance.	1	1	1
Dermatitis through contact with fuels and oils	X	X		2	4	8	Impermeable gloves are to be always used when refuelling plant and tools.	1	4	4

RISK ASSESSMENT

or ingestion of fuel and oils							Good personnel hygiene following refuelling operations. Wash hands after re-fuelling to remove any substance. No eating or drinking around refuelling operations. Washing facilities to have hot and cold running water and soap.			
Fuel bowsers struck by site traffic	X	X		2	5	10	All containers are to be stored away from vehicle and pedestrian routes where practically possible. Storage areas to be adequately secured with barriers where practical. Dedicated refuelling points established clearly marked. Banksman to be used when reversing fuel delivery wagons. Plant and site traffic to be banked at all times.	1	5	5
Damaged hoses or pipes	X	X		2	2	4	Hoses to be inspected prior to use. Do not use any defective hoses. Hoses are not to be left lying around on the ground. Damaged or faulty hoses are to be removed and replaced.	1	2	2
Vandalism	X	X	X	3	4	12	Ensure valuable plant/equipment and COSHH materials are kept away from public view as reasonably possible. Storage system valves, taps, hatches or lids and delivery hoses should be fitted with locks and locked when not in use. Where possible materials should be	2	4	8

RISK ASSESSMENT

							stored in secure containers. Where possible immobilise plant and equipment overnight. Store valuable materials, or those that are hazardous or attractive to thieves, in a secure area, out of sight of the public.			
Storage of materials and chemicals	X	X	X	4	4	16	COSHH registers must be kept and maintained in all COSHH storage areas. Store materials away from waste storage containers and from vehicle movements that may cause accidental damage. Store valuable materials, or those that are hazardous or attractive to thieves, in a secure area, out of sight of the public. Storage and use of perishable items (e.g., cement) should follow the “first in first out” rule. Refer to ENV01 risk assessment for further guidance.	1	4	4

RISK ASSESSMENT

MANUAL HANDLING

Hazard	Persons affected = X			Pre - Control			Control Measures	Post-Control		
	Worker	Other Site personnel	Public	Likelihood	Severity	Risk Rating		Likelihood	Severity	Risk Rating
Lifting, lowering, pushing, pulling, levering, manipulating, twisting, holding supporting etc.	X	X		3	4	12	Where possible, the use of mechanical aids should be adopted. If not available or practical, ask a colleague for assistance. Assess the lift – Is help required? Manual handling training to be undertaken. Could the load be made smaller or lighter (i.e. Divisible loads could be split down into smaller loads). Good manual handling techniques should be adopted. The legs and thigh muscles should be used. Always maintain the natural shape of the spine. Ensure there are no obstructions to hinder the lift and check that the pathway is clear. Place the feet slightly apart to give a balanced and stable posture for lifting. Adopt a good posture, get a firm grip of the load and keep the load close to the body. Avoid carrying the load for long periods.	1	4	4
Poor housekeeping, wet surfaces, uneven floors, obstructions	X	X		3	4	12	Store all surplus and waste materials appropriately. Keep areas tidy and do not allow materials and equipment to block or cross pedestrian routes. Keep a clear view of your direction at all times. Avoid wet or slippery surfaces. Clear spillages immediately.	1	4	4
Sharp edges, rough surfaces.	X	X		3	3	9	Assess the surface of the object or load for sharp edges and remove or cover them were possible. Wear the necessary PPE at all times, particularly Gloves, Boots, Hard Hat etc.	1	3	3

RISK ASSESSMENT

CONTAMINATED LAND AND PERSONAL HEALTH

Hazard	Persons affected = X			Pre - Control			Control Measures	Post-Control		
	Worker	Other Site personnel	Public	Likelihood	Severity	Risk Rating		Likelihood	Severity	Risk Rating
Poor Hygiene	X	X		3	4	12	Hands must be washed before eating or smoking. Cuts/ scratches must be attended to immediately by a first aider, if they happened on site or not. A waterproof dressing must be used to cover the wound. Separate containers or holders must be provided for work and non-work clothes. When leaving site all PPE must be put in lockers or placed away tidily.	1	4	4
Inhaling harmful dust.	X	X	X	3	4	12	Morgan Sindall Construction & Infrastructure Ltd to advise Menard of any known contaminants within the ground Dust suppression including dampening down the site must be undertaken by Morgan Sindall Construction & Infrastructure Ltd where airborne dust is realised. Suitable respiratory equipment to be used if there is a possibility of air borne contaminants. Where practicable dust suppression should be used. A review of the works by Morgan Sindall Construction & Infrastructure Ltd must be done considering the generation of dust and wind direction to prevent dust being blown into public areas. Morgan Sindall Construction & Infrastructure Ltd to cover waste material as practically possible to prevent dust.	1	4	4

RISK ASSESSMENT

Inhaling harmful fumes.	X	X	X	3	4	12	Smoking is prohibited on site. Designated areas for smokers will be clearly marked. Equipment to be NRMM compliant (where applicable). Manage vehicle movements to reduce travel as reasonably practicable. Switch off vehicle when not in use for long periods of time. Personnel should position themselves on site to avoid inhaling fumes from plant as best possible. Report any exhaust fume issues with plant on daily inspection sheets.	1	4	4
Skin coming into contact with contaminants.	X	X		3	4	12	Morgan Sindall Construction & Infrastructure Ltd to advise Menard of any known contaminants within the ground. Persons not to handle soils where possible, thereafter hands must be washed with cleaning product. Hands must be washed before eating or smoking. Cuts/scratches must be attended to by a first aider, if they happened on site or not. A waterproof dressing must be used to cover the wound. Company PPE including gloves must be worn at all times. When leaving site all PPE must be put in lockers. Disposable coveralls will be provided as necessary.	1	4	4
Ingesting contaminated material.	X	X	X	2	4	8	The correct PPE must be worn at all times. A high standard of personal hygiene must be maintained at all times. Hands must be washed before handling food and / or smoking. The consumption of food is strictly forbidden on site	1	4	4

RISK ASSESSMENT

							and should be done in designated welfare provided or own vehicles. Washing facilities to have hot and cold running water and soap.			
Presence of Asbestos	X	X	X	2	5	10	Morgan Sindall Construction & Infrastructure Ltd to advise Menard of any known asbestos on the site and if so the type, quantity and measures taken to minimise the risk of exposure to site operatives. This may include removal, dampening down, specialist PPE (including dust masks and overalls) and washing down facilities. Any specialist PPE, training or precautionary measures are to be notified and provided to Menard in advance of the works. Menard operatives to have completed basic asbestos awareness training. Any observed asbestos must be reported immediately to the client for removal/remediation.	1	5	5
Contaminated soils entering water courses and/or environmentally sensitive areas			X	2	3	6	A review of the system should be done to minimise as practically possible the generation of arisings bringing contaminated soils to the surface. All waste material is to be disposed of to designated waste storage areas as set out in the site waste management plan. Measures to prevent run off of contaminated soils entering water courses or environmentally sensitive areas. Avoid storing materials close to watercourses or environmentally sensitive areas. Refer to ENV01 for further guidance.	1	3	3

RISK ASSESSMENT

HAND ARM VIBRATION SYNDROME (HAVS)

Hazard	Persons affected = X			Pre - Control			Control Measures	Post-Control		
	Worker	Other Site personnel	Public	Likelihood	Severity	Risk Rating		Likelihood	Severity	Risk Rating
Using Vibrating Hand Tools	X			2	4	8	Use a different method where possible. Only use low vibration tools- below 2.5m/s A(8) if possible. Under no circumstances exceed 5.0 m/s A(8) Ensure that the wheels are of the correct type. Vibration assessment to be undertaken on tools. Make sure abrasive wheels are stored correctly and to be inspected prior to use, check that there are no chipped edges that may cause the wheel to become unbalanced. Make sure that the grinder has been serviced. Source grinders with anti-vibration handles where possible. The operator should take regular breaks. Use an operator rotation system where at all possible. The operator should keep hands warm to ensure good blood supply to fingers. Do not use excessive force on handles of grinder and apply in correct direction of use. Do not press down with excessive force. Wear gloves to keep hands warm. Calculate exposure 'points' with HSE ready reckoner.	1	4	4

RISK ASSESSMENT

PLATE LOAD TESTING

Hazard	Persons affected = X			Pre - Control			Control Measures	Post-Control		
	Worker	Other Site personnel	Public	Likelihood	Severity	Risk Rating		Likelihood	Severity	Risk Rating
Failure of jack	X	X		2	5	10	Check the safe working load jack and ensure it is sufficient for the load. Ensure loads are free from obstructions Ensure that jack and plate setup is correct and securely and centrally placed to load. Go under the load only for setup purposes only. Vehicle traffic shall be diverted so as not to disturb the load test.	1	5	5
Hit by moving traffic / plant	X	X		2	4	8	If using the rig as kentledge, once the rig is positioned over the test it must be switched off and isolated prior working under rig and undertaking the test. Exclusion zone to be set up around the location of the test. If testing next to areas of traffic/operations, physical fencing should be established.	1	4	4
Failure of hydraulic lines while placing jacks for pressure test and applying pressure.	X	X		3	3	9	Visual inspection of hose lines before use. Slowly increase the pressure. Exclusion zone must be in place. Fenced off with clear signage. Availability of a spill kit nearby in case of oil leakage. Company PPE to be worn including gloves and safety glasses.	1	3	3

RISK ASSESSMENT

							<u>Environmental Considerations:</u> - Undertake testing away from watercourses where possible. - Clean up any hydraulic spill immediately.			
Manual handling of the test plate and equipment.	X			3	3	9	Where available, always use a mechanical aid. Where practical, use 2 people to undertake the lift. As a guide, 25kg can be lifted at the waist. However this must be assessed by the person undertaking the lift. Plan the route of the lift and avoid twisting. Keep legs apart and use your legs to power the lift taking care to avoid bending over as practically possible. Use loading shovel to transport the plates where possible.	2	3	3
Misuse by unauthorised personnel		X	X	2	4	8	Site security must be maintained at all times during testing. Briefing to be undertaken by Morgan Sindall Construction & Infrastructure Ltd to other site personnel regarding associated hazards.	1	4	4

Appendix B – Inspection Test Plan

Site Name:	Port Talbot – Carbon Hub	Project Number:	30360	Revision Number:	00				
Inspection and Test Plan Description:	Ground Improvement by Vibro Stone Columns			'Principal Contractor:	Morgan Sindall Construction & Infrastructure Ltd				
Issuing Company Name:	Menard	ITP Written By:	AT	ITP Checked By:					
		Date:	14/01/2026	Date:					
Inspection and Sample Codes									
H	Hold Point	W	Witness Point	R	Review Document				
Approval Point									
Inspector Codes									
CE	Contracts Engineer (MENARD)	DE	Design Engineer (MENARD)	SS	Site Supervisor (MENARD)				
PM	Project Manager (P/C)	SM	Site Manager (P/C)	Co E	Consultant Engineer				
RO	Rig Operator	PO	Pump Operator (MENARD)	OM	Ops Manager (MENARD)				
Item Number	Operation/Activity	Responsibility	Frequency	Verifying Documents/Parameters	Acceptance Criteria				
					MENARD		PC		
					Code	Authority	Code	Inspector	
1.0	Approval of working drawings	PC	Prior to site start	Approved Drawings	H	CE/DE	R/A	PM/CoE	PC to check Menard drawings are based on the latest issue foundation drawings and temp

									work designs. Construction issue drawings are produced by Menard.
2.0	Approval of infill aggregate	MENARD/PC	Prior to site start	Grading certificate	H	CE/DE	R	PM/CoE	Menard to approve specified grading and strength.
3.0	Satisfactory working platform installed to support MENARD equipment	PC	Prior to site start	Working platform certificate Rig bearing loads Platform to extend 2m past working areas and should be level and capable of supporting the rig bearing loads supplied	H	SS/CE	A	SM	Sign off of working platform certificate Daily inspections of working platform.
4.0	Setting out of all VSC positions – Survey Control	PC	Prior to installation of VSC	Site engineer to check coordinates for key setting out points Check of base stations Check of column positions on the ground	H	SS	H	SM	Visual Inspection Accurate setting out to be carried out PC
5.0	Checking and setting out of service locations	PC	Prior to site start	Service drawings Permit to dig	H	SS	A	SM	Permit to dig signed off per area with service drawings attached. CAT scans carried out by PC
6.0	Installation tolerance	MENARD	Each VSC position	Installation tolerance of 150mm all directions in plan on set out VSC position.	H	SS/RO	W	SM	Visual Inspection – VSC positions to be set out with pin or spray. Overall dimensions to be checked when stringing out positions.

7.0	Trial probes with equipment against existing site investigation logs. If required.	MENARD	At start of operations and periodic through works	Site investigation logs Calibration with design engineers interpolation from existing SI logs.	R/A W	DE/CE RO/SS	W	CoE/ SM	Findings of soils in line with CPT logs and anticipated depths.
8.0	Penetrating soils to required depth. Termination of column to design depth, resistance or practical refusal criteria, based on site investigation and findings from trial probes.	MENARD	Each VSC position throughout the works	Relevant Site Investigation Logs Start Up Instruction Document Daily quality sheets Trial probes Monitored in real time by the RO on the rig computer	H	SS/ CE	R	SM	Depths to be in line with design requirements. A depth or resistance criteria is achieved dependant on the soils and foundation loading requirements.
9.0	Columns formed with the required diameter	MENARD	Throughout the works/Each VSC position	Daily quality sheets issued within as built package. Monitored real time by the RO. A satisfactory quantity of stone is placed into the hole and compacted adequately in line with ground conditions.	H	RO/SS/ CE	R	SM/PM	A satisfactory amount of stone is placed into the hole and compacted in stages in line with the ground conditions. A satisfactory consumption of stone is achieved.
10.0	Obstructions encountered	MENARD	Each obstruction encountered	Each obstruction to be reviewed for depth, location and size by the DE. Where obstruction is near surface, PC to remove and	H/R	RO/SS/ CE/DE	H/R/A	SM	VSC's installed to provide coverage to satisfy the design. Redesign reviewed by all parties prior to installation of additional columns.

				replace with suitable granular backfill material. Where at depth; Menard to re-position VSC to the side of original VSC position. Should this fail, a re-position to the opposite side of the original position be undertaken. Should this fail, obstruction to be removed by PC.					
11.0	Hard ground not allowing required depths	MENARD	As encountered	Unable to penetrate ground to achieve design depth.	H	SS/CE	W	SM	Pre-augering is employed to allow columns to achieve design depth. Ground to be pre-loosened, reinstated with loose granular material.
12.0	Upfill or backfill material suitable for vibro stone columns	PC	As required to make up treated ground	Backfill material to be loosely end tipped granular material in accordance with our upfill specification. Material to have <10% fines content. Particle size distribution charts to be obtained for fill. Where cohesive material is used, this must be placed in controlled layers to the satisfactory for the design engineer. CBR or load tests to be undertaken on	H	CE/DE	W	SM/CoE	Granular material placed in accordance with our upfill specification. Material penetrable and compactable with our vibroprobe. Stone columns are installed successfully and bearing capacities and settlement criteria achieved.

				layers to validate strength of material.					
13.0	Load Testing	MENARD	600mm plate or 1500x600mm dummy foundation as set out in the contract Locations as agreed on site.	Plate Load test to 3.0 times nominal load or 11t max following 5 steps as described in Menard Method Statement Dummy Load test to 1.5 times nominal load or 18t max following 5 steps as described in Menard Method Statement Menard Load Test Report	H/R	SS/DE/CE	R	SM	Settlement complies with Menard design report document.
14.0	Inspection and handover of works	MENARD	Upon release of sections of work	A visual inspection undertaken on site prior to handover. Daily record sheets, test results and as-built drawings produced by Menard to be issued and reviewed.	R	SS/CE/DE	R	SM	Upon satisfactory review of works, working area to be handed over to PC.
15.0	Remedial Works (if applicable)	MENARD	If Required	NCR process (if applicable) Repair of non-conformance work (if applicable) Further test results	H	SS/CE/DE/OM	R	PM	Re-tests comply to specs and design.

Appendix C – Working Platform Certificate

Project Name	Port Talbot – Carbon Hub
Work area covered by this certificate	Foundation Footprint + 2.0m

(A sketch or marked up pile layout drawing may be attached to this certificate. Include haul roads and gridlines.)

Part 1 – WORKING PLATFORM DESIGN (INCLUDING RAMPS AND ACCESS)

Equipment to be used on site.	VSC Rig (Volvo SPD), Pre Bore Rig & Loading Shovel	Track width (m)	0.7m
Mode	Case 1	Case 2	
Characteristic track pressure (kPa)	133kPa	140kPa	
Equivalent track bearing length (m)	3.69m	3.62m	

(Note: BR470 'Working Platforms for Tracked Plant: Good practice guide to the design, installation, maintenance and repair of ground-supported platforms' is available from BRE Group – <https://bregroup.com>)

Designer name		Tel No.	
Designer organisation		Design reference	
Subgrade strength (Cu or ϕ)		Groundwater depth (m bgl)	
Platform material density (kN/m ³)		Platform angle of friction ϕ (°)	Platform design thickness (mm)
Geotextile/Geogrid (layers and strength)		Geotextile/Geogrid depth (m below WPL)	
Testing required to verify the design			

Part 2 – VERIFICATION BY PRINCIPAL CONTRACTOR

The working platform detailed above has been designed, installed to the design, and as specified, tested to safely support the equipment detailed in Part 1 above. The limits of the platform have been clearly identified on site as necessary.

The working platform will be REGULARLY INSPECTED, MAINTAINED, MODIFIED, REPAIRED, and REINSTATED to the as-designed condition after any excavation or damage, throughout the period when the equipment is on the site. A completed copy of this certificate signed by an authorised person from the Principal Contractor shall be given to each user of the working platform prior to commencement of any works on site.

Name & Position		Date
Organisation		Signature

The HSE has worked closely with the FPS to develop this initiative and supports the principle of reducing accidents by the certification of properly designed, installed and maintained working platforms.

Working Platform Regular Inspection Log

(To be completed by an authorised representative of the Principal Contractor)

The working platform is to be inspected at weekly intervals and after any event that might change the nature of the working platform (such as heavy rain or flooding). Any modification or repair to the working platform is in accordance with the platform design. If necessary, a revised Working Platform Layout Drawing has been issued to the specialist contractor.

Date	Organisation	Name & Position	Signature	Comments (include key details of alteration, modification, maintenance, repair, date of next inspection, and any testing)

Guidance on working platforms for tracked plant

Roles and responsibilities:

Designer -	A competent individual responsible for the design and specification of the working platform for the specified plant.
Authorised Person -	A competent individual responsible for ensuring that the working platform is installed and tested in accordance with the design document and drawings. This individual should be authorized to act on behalf of the Principal Contractor.

1. Design

- 1.1. The HSWA 1974 and CDM Regulations 2015 require the Principal Contractor to appoint competent Designers in respect of working platform design. This legislation explains how competence can be assessed by reference to professional qualifications or professional memberships and by reference to practical experience of the design of working platforms. Principal Contractors must be satisfied that a competent Designer has been appointed by them in accordance with the relevant legislation before they complete and sign the WPC.
- 1.2. The FPS Working Platform Certificate is mandatory for all sites where a rig or attendant plant operates. It must be signed by an Authorised Person from the Principal Contractor. This signature confirms that the legal duties required under CDM have been carried out.
- 1.3. Whilst the same type of rig may be operated by different companies, the design bearing pressures may differ due to the specific operating configuration of the rig and/or any modifications. Details of the plant to be used and bearing pressures will be provided by the specialist contractor in advance of work commencing. Loading in accordance with the BR470 design approach can be determined using the FPS Rig Bearing Pressure Calculation tool.
- 1.4. Working platform design and performance is extremely sensitive to the bearing pressure and type of fill used in the platform. For example, changing the angle of friction of the fill from 35° to 45° can halve the platform thickness. It is therefore advised that the Designer may have to adopt conservative estimates of platform shear strength unless higher values can be demonstrated by testing or by reference to appropriate published data. In accordance with BR470 the working platform fill should contain < 15% fines.
- 1.5. It must be ensured that adequate drainage is installed to prevent the build-up of water within or on the surface of the platform. The drainage requirements should be designed, taking account of the planned works (including groundwater and slurry arisings) and the time of year in which the works are being carried out. The platform designer should be aware of any planned drainage installation. Drainage normally includes a slope on the subgrade, to prevent pooling or soft spots at the base of the platform. In addition, drainage runs, and water extraction may be required, depending on the site conditions and type of work being carried out.
- 1.6. Proof testing of the platform should be carried out by an appropriate method such as those detailed within TWF¹ or EFFC/DFI² guidance. Such testing, as part of an appropriately designed testing regime, should highlight any gross inconsistencies in platform performance. Potentially, significant savings in platform thickness and cost may be realised by adopting a more detailed testing strategy.
- 1.7. The working platform must have a design life which starts before delivery of the specialist equipment and, as a minimum, extends to completion of all geotechnical works. This includes load testing, integrity testing, investigation of non-conformances and any remedial works. Consideration should be given to ensuring that the working platform remains serviceable for follow-on activities, noting that these would not necessarily be covered by this certification.
- 1.8. Working platforms must maintain safety and efficiency throughout their design life while also being economically viable; both in terms of cost-effectiveness and sustainability. To achieve this, it is crucial to avoid over-designing platforms, ensuring a thorough evaluation of equipment loading, soil parameters, and appropriate testing regimes. The design and construction of temporary working platforms should incorporate all three pillars of sustainability: economic, environmental, and social. Whilst financial considerations often take precedence, the advantages of reducing carbon emissions, social welfare, and improving health and safety standards should not be overlooked. Further information in this respect can be found within the EFFC/DFI² guidance document.

2. Installation

- 2.1. If the working platform is to be constructed or removed in phases whilst geotechnical works are ongoing, then the extent of the platform must be clearly defined on the certificate and physically demarked on site. This is particularly important where the platform material is removed from an area previously made available to the specialist contractor.
- 2.2. The working platform will provide access for all plant deliveries, sub-contractors and personnel associated with the specialist operations. The working platform must be safe for pedestrian access and free from trip hazards (protruding reinforcement is a common hazard). It must not contain harmful materials and contaminants, particularly those that can become airborne in dusty conditions. Properly designed and installed, the working platform could also provide suitable and safe access for following trades for the whole project.
- 2.3. It is good practice that the working platform, including all accesses and ramps, should extend at

- least 2m beyond the pile position/edge of the building/outside edge of the rig tracks, subject to the design minimums, to ensure sufficient safe working area for the specialist's personnel and attendant plant. Note that when using a BR470 platform design, the edge distance should be a minimum of at least half the machine width. Where there is a requirement to work less than 2m (or half the rig width, as applicable) from the platform edge, it must be ensured that the Designer has considered this and the subsequent installation requirements within their design.
- 2.4. Where access ramps are used to move between working levels these must be of sufficient gradient (typically 1:10) and width to allow the plant to move safely within the stability constraints of the machine. All ramps must be specifically considered by design before installation. Ramps must be in a straight line between working areas. Rigs and cranes cannot change direction on ramps. Where a change in direction is required, this must be on a flat level platform.
 - 2.5. Poor definition of the edge of the working platform, including ramps, is a major cause of tracked plant instability. The permissible working extents of the platform (minimum distance of plant to platform edge) for working platforms, access areas and ramps, should be adequately identified/demarcated. The method of demarcation should be suitable for the level of risk and consider the practicalities of normal rig operation. In high-risk areas, physical barriers such as timber sleepers or roadblocks are recommended.
 - 2.6. Construction records should be kept relating to the installation of the platform, including (but not limited to):- details of the site preparation, provision of drainage, weather and sub-grade conditions, method and details of compaction plant, testing etc

3. Maintenance, modification, repair and reinstatement

- 3.1. The working platform must be kept free draining. Water and slurry which is allowed to build up on the working platform can hide such hazards as recently constructed piles, trip hazards, uneven or unstable ground, services and excavations. Slurry can be transferred to work equipment which increases the risk of slips on steps as well as difficult handling of work tools. In addition, saturation of the platform can lead to rapid deterioration of the platform. In the case of fine-grained sub-grades, a separation/filter membrane should be provided beneath the platform material to inhibit 'pumping' and infiltration of the fine-grained soils up into the platform material during wet weather (which can impair platform performance and increase maintenance costs).
- 3.2. Obstructions encountered during installation of the geotechnical works will generally require excavation to remove them. This can create a 'soft spot' which can result in the rig overturning. It is essential, therefore, that any excavations made in the working platform are reinstated to the design, including any reinforcement and separation filter/membrane. This is not always practicable, such as for large diameter bored piles with a concrete finish level below platform level, and in these cases the platform designer must be made aware and consider this within their design. A separate guidance document on excavation and reinstatement is provided specifically covering pile related instances.
- 3.3. The working platform shall be subject to regular inspection by a competent individual appointed by the Principal Contractor (e.g. the Temporary Works Co-ordinator) throughout its design life and after any reinstatement or any works which might have modified it. Any damaged or inadequate areas identified must be reinstated to the designed standard. Following the regular inspection, the Working Platform Regular Inspection Log shall be signed by an authorised representative of the Principal Contractor and issued to the specialist contractor with a layout drawing of the working platform amended as appropriate.
- 3.4. Where there is an intention to reuse platform material (whether for repair, reinstatement, or new platform installation) it must be ensured that on each occasion of reuse this still complies with the design requirements and the material should be re-tested to ensure this. Failure to do so can lead to the rapid deterioration of the working platform. It must be ensured that any testing is reflective of the typical material planned for reuse and meets the requirements of the material testing as defined within the design. Further guidance is provided on this within the TWF guidance¹.
- 3.5. The design platform minimum thickness must be maintained. Depending on the technique being carried out there may be a requirement for the removal of spoil arisings and scraping of the platform surface. In this case consideration needs to be given by the designer and party responsible for maintenance as to how the platform thickness is to be maintained, which may include regular surveying or a sacrificial wearing layer. Further guidance is available in the TWF guidance¹.
- 3.6. The specialist contractor is to advise the Principal Contractor at the earliest practicable opportunity should the specialist contractor become aware of any circumstances relating to the working platform that renders it unsafe.

4. Working Platform Layout

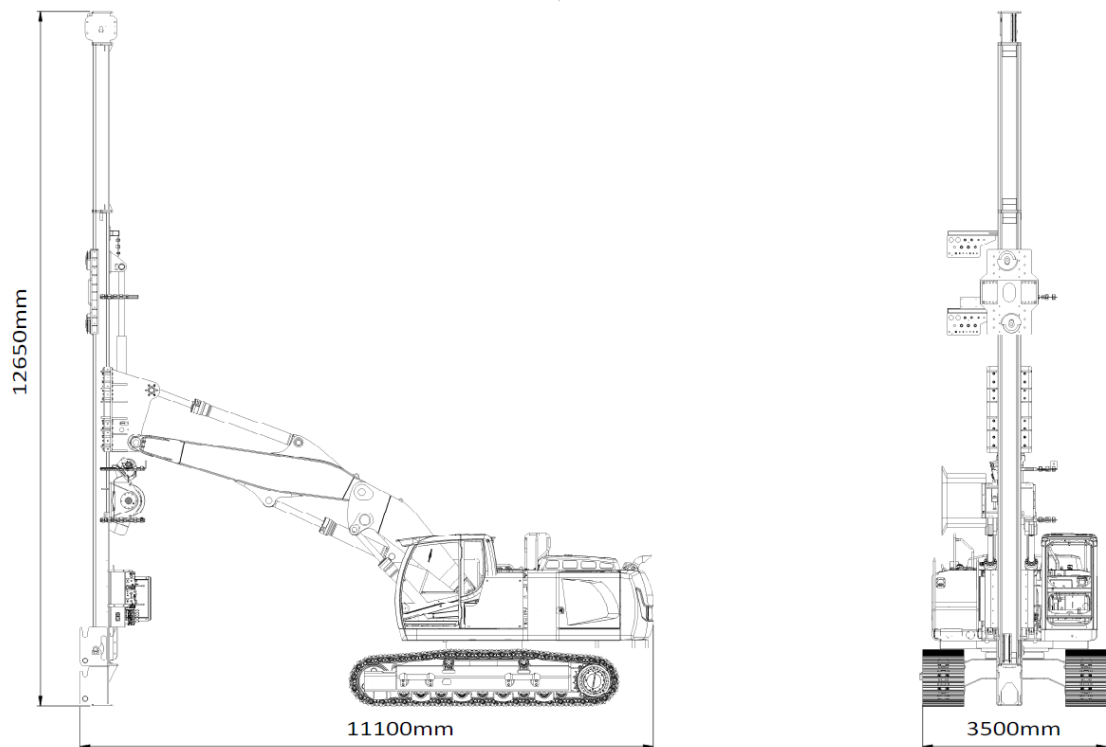
- 4.1 Items that must be included and properly located on the working platform layout drawing and be notified by the Principal Contractor to the specialist contractor would include: detail of platform edges and minimum 2m delineation, trial pits, services or voids, areas of backfilling, known underground basements; areas that are covered by the certificate or permit, test locations (if specified by the Designer of the platform) and any other feature that may affect the safety of operations.

References

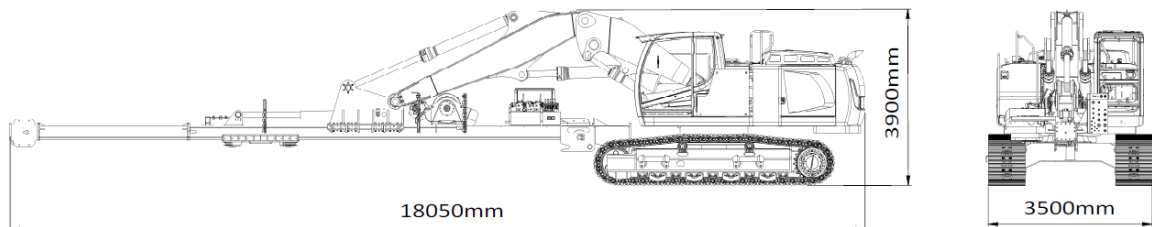
1. TWF document 'Design and Construction of Granular Working Platforms' TWF2024:03 (November 2024).
2. EFCF/DFI 'Guide to Working Platforms' Edition 2 (May 2025).

Appendix D - Equipment, Noise & Vibration Data Sheets

SPD Rig Data



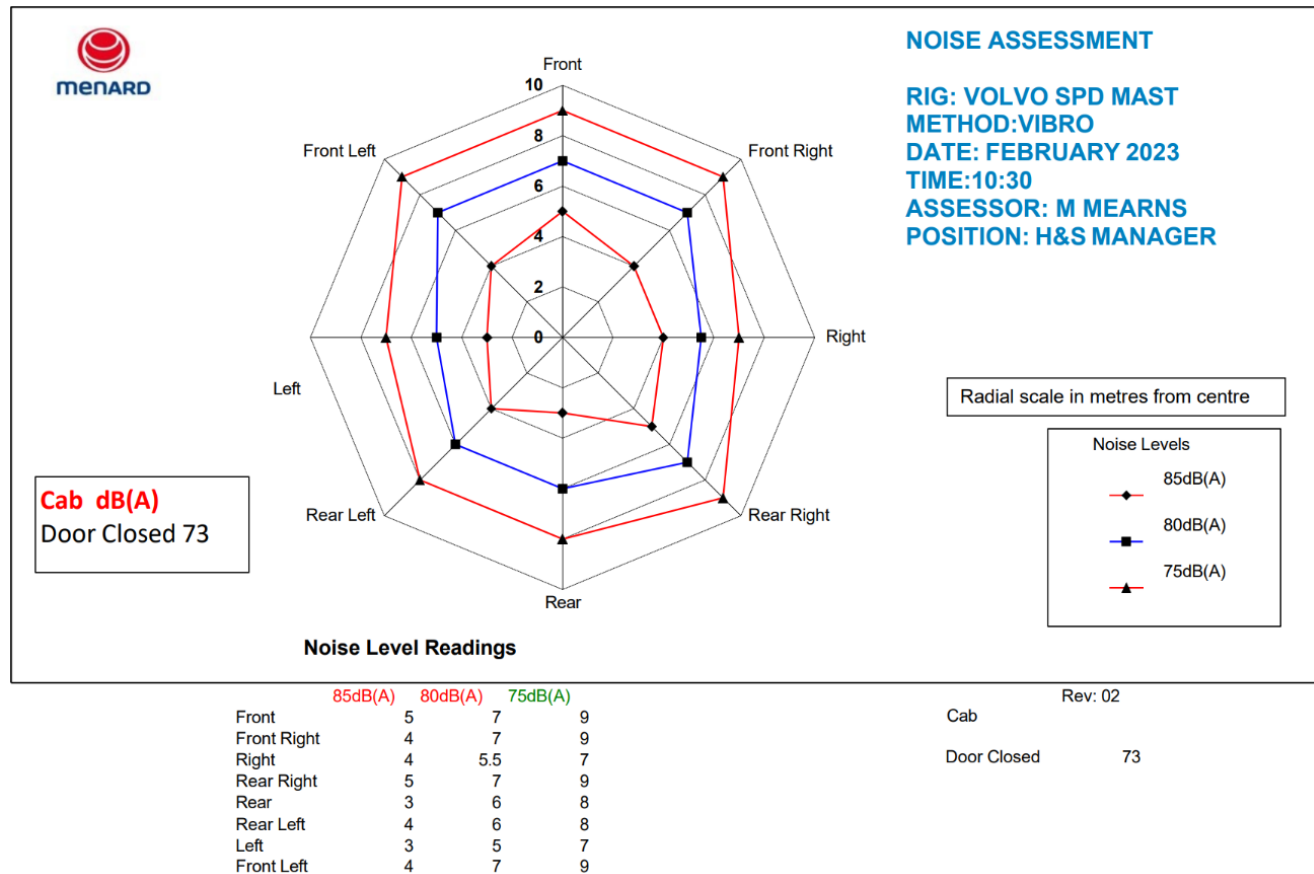
Operating Weight = 55Tn



Rig Bearing Loads

Schedule of Piling Rig Component Weights, Dimensions, Forces and Pressures							
Note: The disclaimer on the first worksheet applies to all tables in this workbook							
Rig Manufacturer :	Vibro Menard			Rig Type & Serial No.	Volvo	ec480 w. mast	
Operation mode:	Vibro Stone Columns			Date:	26/03/2024		
Completed by:	David Rickson			Checked by:	David Rickson		
Main Components - Slewing:							
Item	Mass (kg)	Weight (kN)	X - Coordinate	Y - Coordinate	Moment Mx (kNm)	Moment My (kNm)	
Slewing Components Totals/Resultant (with $\theta=0$)							
UPPER WORKS	5,455	54	0.00	7.00	-375	0	
LOWER WORKS	20,874	205	0.00	-0.70	143	0	
SUSPENDED EQUIPMENT CONNECTED TO CROWD SYSTEM	5,210	51	0.00	7.40	-378	0	
COUNTERWEIGHT	9,750	96	0.00	-3.60	344	0	
OTHER	0	0	0.00	0.00	0	0	
TOTAL/RESULTANT (with $\theta=0$)	41,289	405	0.00	0.65	-265	0	
Foot Pads - Slewing :							
Description (Forces must be -ve)	Bearing Area	Max. Pad Loading	X - Coordinate	Y - Coordinate	Actual Shape	Actual Dimension	
	m ²	kN	m	m			
Front Pad 1	0.40	-350	0.00	7.40	Rectangular guide	0.5 x 0.8	
Front Pad 2	0.00	0.00	0.00	0.00	None	None	
Rear Pad 1	0.00	0.00	0.00	0.00	None	None	
Rear Pad 2	0.00	0.00	0.00	0.00	None	None	
Forces - Slewing							
		Force	X - Coordinate	Y - Coordinate			
		kN	m	m			
Maximum Extraction Force (kN)		110	0.00	7.40	Must be inline with suspended equip't.		
Maximum Penetration Force (kN)		-60	0.00	7.40	-ve Must be inline with suspended equip't.		
Maximum Auxillary Force (kN)		0	0.00	0.00			
Main Components - Non-Slewing:							
Item	Mass (kg)	Weight (kN)	X - Coordinate	Y - Coordinate	Moment Mx (kNm)	Moment My (kNm)	
Lower Works Non-Slewing (undercarriage/tracks etc)	Tracks & Undercarriage	15000	147	0.00	0.00		
				0.00	0.00		
				0.00	0.00		
TOTAL/RESULTANT (with $\theta=0$)	15,000	147	0.00	0.00	0	0	
TOTAL RIG MASS	56,289						
Tracks							
Track bearing length (m)	4.37		Can the Rig Slew?		YES		
Track pad width (m)	0.70						
Distance between centrelines of tracks (m)	2.74						
Slewing							
Pressure Summary for Platform Design (unfactored)				BRE LOAD CASE (1 or 2)	Eccentricity Index		Winch Forces
MODE	Equiv. Track Length (m)	Equiv. Track Width (m)	Equiv. Uniform Bearing Pressure, q_{eq} (kPa)		Eccentricity index - X direction (sideways)	Eccentricity index - Y direction (forwards/backwards)	Algebraic sum of forces (kN)
Standing	3.69	0.70	133	1	0.35	0.22	0
Travelling	3.69	0.70	133	1	0.35	0.22	0
Handling	3.69	0.70	133	1	0.35	0.22	0
Penetrating	3.36	0.70	137	2	0.52	0.33	-30
Extracting	3.62	0.70	140	2	0.39	0.24	110
Other	Not Used	-	-	0	-	-	0
Notes							
Note: The disclaimer on the first worksheet applies to all tables in this workbook				1. Rig working top feed or bottom feed systems only. 2. Allowance of 3Tn penetration force in ground considering gradual movement in line with hammer limits and vibratory action. Operator to monitor penetration winch force based on soils and rig stability. 3. Maximum mast length of 12m.			

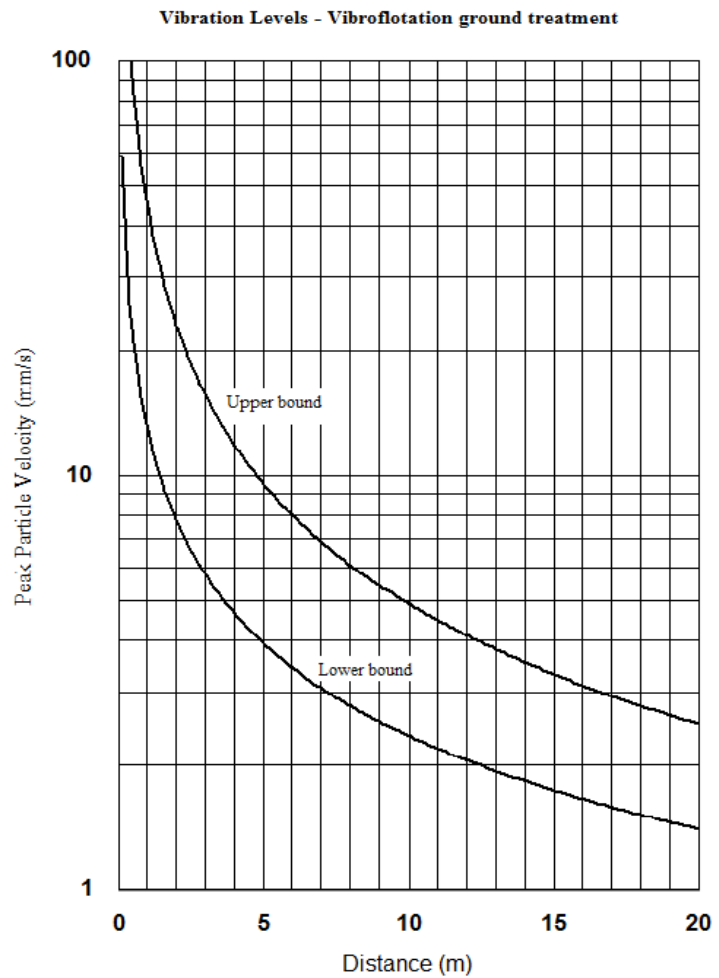
Noise Assessment



Ground Borne Vibration Assessment

Menard- Vibration Hazard Assessment				
Hazard	Peak Particle Velocity (mm/sec)			Action
	>10	5 - 10	<5	
Vibration damage to adjacent structures	High	Med-Low	Low	Visual inspection as the work proceeds. Halt operations if vibration levels excessive or if any damage is observed
Minor architectural damage to adjacent structures (i.e. plaster cracking)	High	Med	Low	Halt operations if any reported and seek instructions.
Damage to underground services				
1. Older non-flexible services (e.g. gas or water)	High	Med	Low	All services to be identified and clearly marked by the Main Contractor.
2. Modern flexible services	Med	Low	Low	All services to be identified and clearly marked by the Main Contractor.
Vibration nuisance at adjacent occupied buildings	High	High	Med	Seek instructions from the Contractor if complaints received.

The vibration levels and actions noted in the table are for general guidance only. In practice each site must be considered individually taking into account all known adjacent structures and services. Where appropriate, obtain advice from relevant body (e.g. Statutory Undertakers) on safe working levels.



Appendix E – Gloves Guidance



menARD

Glove Guidance



Jul-22

ACTIVITY / DEPARTMENT	PERSONS AT RISK	POTENTIAL INJURY TYPE(S)	SUGGESTED GLOVES FROM CLAD	CONTACT GLOVES (NO CUT RESISTANCE)	HEAVY DUTY (RIGGER)	HEAVY DUTY NON SLIP	CHEMICAL RESISTANT	THERMAL GLOVES	CUT RESISTANT L5	CUT RESISTANT L4	CUT RESISTANT L3	FLAME RETARDANT
VIBRO STONE COLUMNS & DYNAMIC COMPACTION												
General Wear	Supervisor & Operator	Abrasion	AX-011 	Yes								
Setting Out	Supervisor	Abrasion	AX-011 	Yes								
Lifting test plate & equipment	Supervisor & Operator	Abrasion	AX-011 	Yes								
Rigging / De-Rigging	Supervisor & Operator	Abrasion, Puncture & Cut	ABS-WG718 		Yes		Yes		Yes			
Equipment Maintenance	Operator	Abrasion, Puncture & Cut	ABS-WG718 		Yes		Yes		Yes			
Re-fuelling	Supervisor & Operator	Hazardous material protection	ACO-GO10 	Yes			Yes					
Cold weather working	Supervisor & Operator	Cold numbing of hands	AX-076 		Yes			Yes				
Heavy duty oil / fuel / grease handling	Supervisor & Operator	Hazardous material protection	AX-075 	Yes	Yes		Yes					
Delicate oil / fuel / grease / liquid handling	Supervisor & Operator	Hazardous material protection	ACO-GO10 	Yes			Yes					

Appendix F – COSHH Data Sheets

COSHH Register

Please see folder within site tool-box cabin.

Or access via this link with a Vinci email- [COSHH Register](#)
