



**SUPPLY CHAIN SAFETY  
LEADERSHIP GROUP**

**Highways Safety Hub  
Raising the Bar 1  
Plant and Equipment**

Issued November 2013, Revised November 2021

## General minimum requirements (Page 1 of 2)

### Introduction

Information (text) contained in this “General Minimum Requirements” section (2 pages) is relevant to the safe management, operation and use of all plant and equipment – as applicable.

This information has been removed from text of all items, numbers 1 to 33 inclusive, included in this Raising the Bar, to:

- Streamline the document
- Provide a summary listing of “common” elements relevant to all plant and equipment – as required

### General

- All plant and equipment to be inspected prior to first use and the appropriate pre-start check sheet completed and daily recorded inspections thereafter
- Pre-use inspection signed off

### Legal

- Compliant with current UK legislation
- Compliant with European Commission (EC) Machinery Directive 2006/42/EC, or UKCA certification, and supplied with a declaration of conformity

### Plant Equipment

- Evidence of pre-hire inspection
- Operator instruction manual available with plant or equipment
- Access handrails and steps to be colour coded [RAL 1026 (luminous yellow) or RAL 6038 (luminous green)]
- All safety decals in place and legible
- Evidence of regular inspection plus ‘next service and or inspection due’ date/hours sticker
- Seat belt/belts must be fitted and operational

- Tyres labelled each side with inflation pressure
- Wheel Nut indicators on all wheel nuts unless proved impractical
- If used adjacent live lanes control measures must be put in place that in the event of operator error the machine will be prevented from striking passing traffic

### Traffic Signs Manual Chapter 8, Part 2 (Chapter 8)

If plant included in this RtB1 document, is driven, or used on the public highway, requirements of Chapter 8 should be followed, including.

- Roof mounted beacons (Chapter 8, paragraph O5.3) –
  - Roof-mounted flashing amber light bar (comprising at least 2 independent light sources) or two independent roof-mounted flashing amber warning beacons, visible through 360°, must be fitted and operational, and be used
  - Roof-mounted flashing amber warning beacons must comply with the requirements of the Road Vehicle Lighting Regulations and should also comply with the United Nations Economic Commission for Europe (UNECE) Regulation 65 on Special Warning Lamps
  - If the main roof-mounted beacon is likely to be obscured from the rear by parts of the vehicle or any equipment carried on the vehicle, additional beacons should be fitted toward the rear of the vehicle where they will remain visible
- Vehicle conspicuity – All vehicles must be fitted with hi-visibility markings (in accordance with Chapter 8, paragraph O5.2)
- The “HIGHWAY MAINTENANCE” sign to diagram 7404, must be externally mounted on rear of vehicle, in accordance with Chapter 8, paragraph O5.5.2 and O5.5.3. (Chapter paragraph O5.2.8 also refers)

### Operator / Driver (excluding non-working delivery vehicles)

- Attended full induction prior to starting work
- To have passed a drug and alcohol test and subject to ongoing medical screening/surveillance (RtB 12 “Occupational health”)

## General minimum requirements (Page 2 of 2)

### Operator / Driver (excluding non-working delivery vehicles)

continued...

- Competency assessment prior to being put to work – be familiar with plant / equipment
- Complete Pre-use check sheet/e-inspection
- Comply with pre-use and defect reporting system
- Evidence of having signed onto the appropriate Safe System of Work documentation for the task
- Be briefed on the site-specific Plant, Vehicle and People Management Plan (PVPMP) and check for overhead obstructions and hazards
- Always operate/use plant and equipment in accordance with manufacturer's instructions / recommendations
- Engine must be turned off and keys removed from ignition before leaving the vehicle unattended
- Operator to mount and dismount machine using fixed access arrangements and always facing the machine using 3 points of contact
- Operator to stop work if the event of unauthorised personnel entering working area / zone
- Report all unsafe conditions
- Where vehicle or mobile plant utilised on site has to be driven on the public highway, the driver/operator must hold a current valid driving licence with the appropriate category for that vehicle/mobile plant
- Full site-defined PPE required if outside cab - none loose fitting PPE required in all cases to avoid catching on controls
- Additional PPE to be worn as defined by risk assessment specific for the task to be undertaken

### Non-working delivery drivers on site outside cab

- Full site-defined PPE

### Training and Competency Requirements

- A listing of competence cards / schemes is included in Appendix 1 (at the end of this RtB document) for info / ref.
- Competence cards / schemes to be accepted by Principal Contractors in accordance with their own standards

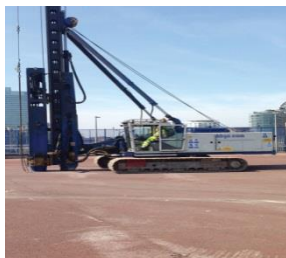
### Hazards / Risks

Significant hazards/risks identified when operating the plant item or equipment and for those adjacent to plant items or equipment:

- Access into cab/refuelling and maintenance
- Clothes can get snagged on controls prior to release of servo isolator/safety handle
- Danger of crushing in slew zone
- Effect of weather on visibility and working/traffic surfaces
- Fire
- Hazardous substances such as fuels, oils, and greases
- Limitations to all round visibility / restricting operator vision
- Overhead obstructions – cables/bridges / power lines / telephone lines
- Plant and personnel interface
- Public interface – working alongside pedestrians/vehicles / plant crossings
- Transportation including loading/unloading

Note: All persons preparing risk assessments involving plant or equipment are encouraged to visit the proposed area of work and to review previous risk assessments undertaken for similar.

## 30. Driven Piling Rig



### General Minimum Requirements (GMR) Section

- The GMR Section (above) contains information common to all items of plant and equipment covered by this RtB guidance, as applicable, and text has been removed from the individual plant item pages to streamline the document
- Content of the GMR Section, as applicable, must be followed to promote and ensure safe operation and use, in addition to details contained below for this plant item

### General

As standard driven piling rigs can be fitted with 3, 4, 5 and 6 Tonne hammers.

### Minimum Requirements - Plant

- CE Declaration of Conformity and current test certificate
- Compliant with current UK legislation
- Fire extinguisher in cab of machine
- Flashing amber beacon
- External green light fitted to indicate when the seat belt is fastened
- 360° visibility criteria to satisfy 1m high at 1m distance, using line of sight, mirrors, cameras (270°/360°), radar - as applicable
- Reversing alarm to be fitted, working and audible outside of the cab

- Aircraft warning lights (if working within 6km of airports or aerodromes)
- Cab steps and handles painted high visibility yellow ensuring 3 points of contact is achievable
- Door lock keys supplied
- Handrails must be fitted to the upper structure and running boards if access to height is required
- Motion alarms for slew and tracking must be fitted and operational
- Must be fitted with 'hold to run' levers
- No modifications to the machines Dead Man's Handle
- Safe access for refuelling, maintenance and to any place where accessories are stored
- Not to be used beneath or adjacent to overhead power lines or obstructions

### Minimum Requirements – Lifting

- Current 12 month LOLER thorough examination certificate for lifting equipment
- Current 6 month LOLER thorough examination certification for all lifting accessories and attachments
- All D/Bow shackles used above 2 metres must be the Bolt Anchor Type (i.e., bolt, nut, and pin)
- All lifting accessories to be marked with safe working load (SWL)
- Auxiliary winch hook must be fitted with a safety catch
- Over-hoist cut out device must be fitted and operational
- Safe working load (SWL) to be clearly marked
- The auxiliary line must be fitted with an over-hoist limit switch
- The rig shall be within 6 months of having its thorough examination if the single line is to be used to lift people

### Minimum Requirements - Operator

- Ensure machine is operated in accordance with manufacturer's instructions and in accordance with their training
- Shall be trained in lifting operations

- Shall be trained in line with all associated works
- Understand and follow the specific site lift plan for the driven rig they are operating
- Instructions/procedures/processes which shall include but are not limited to: Unloading precast piles, Drawing a precast pile into the rig and jointing precast piles
- Operator must stop work if any unauthorised / unsupervised personnel enter their immediate work area
- Shall not track or slew the rig unless under direction from a designated rig attendant
- Use safe communication via two-way radio systems

#### Desirable - Plant

- Computer monitored piling system to be fitted
- GPS tracker unit installed
- Locking caps/covers to fuel and all other tanks
- Proximity detection equipment to be fitted to the rig
- Seat belt operation interlocked with ignition switch / warning indicator

#### Desirable - Emissions

- Engine emissions compliant to EU Stage V

#### Desirable – Operator / Supervisor

- Operator to be Crane lift supervisor trained
- Operator to hold a current driving licence
- Operator to be competency assessed in dealing with spills and environmental protection

#### Hazards / Risks

Significant hazards/risks identified when operating the machine and for those adjacent to machine:

Hazards/risks included in the "General Minimum Requirements" section, plus:-

- Instability: -
  - By removal of obstructions
  - Caused by soft spots
  - Due to obstructions which have not been suitably backfilled after removal
  - Due to operating on inadequately prepared piling platforms
  - Due to poor definition of the edge of the piling platform
  - Due to strong winds. MUST HAVE AN ANEMOMETER ON SITE
  - Of mast or rig due to failure to follow the manufacturer's guidelines on mast inclination
  - Underground services
  - Whilst travelling on inappropriate access ramps where gradients are not within the stability constraints of the rig

Other: -

- Being struck by items falling from height e.g., timbers packings / concrete and hammer helmet retaining bolts vibrating loose
- Being struck by plant and vehicles or piling rig hitting plant or vehicles
- Component failure caused by rig maintenance not being carried out in line with the manufacturers guidelines
- Entrapment between pile casings and rig ballast
- Excessive noise and vibration from repeated blows of the pile
- Hydraulic hose failure & spray of hydraulic oil due to hose burst
- Installing piles adjacent to the site hoarding or 3rd parties
- Precast concrete pile shearing while being driven
- A rope failure causing the hammer or pile section to runaway down the mast
- Instability of the rig due failure of non-compliance to the lift plan
- Pile section clashing with delivery wagons while being loaded or unloaded
- Sub-contractors e.g., testing and setting out engineers operating in the rig's exclusion zones

**Appendix 1 – A listing of competence cards / evidence of training, by RtB 1 PI number order**

| <b>Plant Category</b>             | <b>Competency cards / Driver CPC qualification requirements, as applicable</b>   |
|-----------------------------------|--|
| 1 Excavator Backhoe               | CPCS A10 (<5 tonnes); A12 (>5 tonnes)<br>NPORS N201 (180° Excavator); N100 (Excavator as a crane)  |
| 2 Forward and Side Tipping Dumper | CPCS A09 > endorsements A - Forward tipping wheeled ; B – Forward tipping tracked<br>NPORS N139 (Forward tipping mini dumper up to 1 Tonne); N204 (Forward tipping dumper)   |
| 3 Mini Excavator (<10 Tonne)      | CPCS A58A (<10 tonnes); A58C (Lifting with excavator)<br>NPORS N016 (Micro Excavator 360° up to 1 tonne); N202 (Excavator 360°); N100 (Excavator as a crane) N124 (Load and Secure Excavator up to 5T)   |
| 4 Tracked 360° Excavator          | CPCS A58A (<10 tonnes); A59A (>10 tonnes)<br>CPCS Lifting with excavator A58C (<10 tonnes); A59C (>10 tonnes)<br>NPORS N202 (Excavator 360°); N100 (Excavator as a crane)  |
| 5 Wheeled 360° Excavator          | CPCS A58B (<10 tonnes); A59B (>10 tonnes)<br>CPCS Lifting with excavator A58C (<10 tonnes); A59C (>10 tonnes)<br>NPORS N202 (Excavator 360°); N100 (Excavator as a crane)  |
| 6 Crawler Crane                   | CPCS A02 (Crawler crane over 10 tonnes); A66D (Compact Crane 360° Pick and carry)<br>NPORS N103 (Crawler crane)  |
| 7 Lorry Mounted Crane             | ALLMI (Lorry loader operator certification)<br>CPCS A36 > endorsements A – hook; B – clamshell C – hydraulic clamp<br>NPORS N107 (Lorry loader)  |
| 8 Mobile Elevating Work Platform  | CPCS A25 – Scissor; A26 – Boom; A27 – Mast climber<br>IPAF: 1a – static vertical; 1b – static boom; 3a – mobile vertical; 3b – mobile boom<br>NPORS N108 (Boom); N109 (Scissor lift)   |
| 9 Mixer Truck                     | <ul style="list-style-type: none"> <li>Evidence of demonstrable training and experience in operation of mixer truck</li> </ul>   |
| 10 Telehandler                    | CPCS A17 (Endorsements A-E) that includes - A – Industrial Telescopic; B – Up to 9 metres; C – All sizes ex. 360° slew; D – Superseded by A77; E – Suspended load (non-rough terrain)<br>CPCS A77 - Telescopic handler 360° slew<br>NPORS N010 (Telescopic handler); N011 (Industrial telescopic handler); N138 (Telescopic handler suspended loads) |

| Plant Category                          | Competency cards / Driver CPC qualification requirements, as applicable  |
|---|--|
| 11 Compressor /Air Systems              | <ul style="list-style-type: none"> <li>Evidence of demonstrable training and experience in operation of compressor/air system</li> </ul>   |
| 12 Road Sweeper / Collector             | CSCS - Road Sweeper and Gully sucker Operator, NVQ L2<br>NPORS N217 (Road Sweeper)   |
| 13 Tipper – Rigid or Articulated        | <ul style="list-style-type: none"> <li>Operator must hold the correct category of driving licence for the vehicle / plant being utilised along with current Driver CPC qualification</li> </ul>  |
| 14 Concrete Pump                        | CPCS A06 (Truck mounted boom – LGV required); A44 (Concrete pump trailer mounted)<br>NPORS N211 (Concrete pump mobile)   |
| 15 Mobile Crane                         | CPCS A60 > endorsements A – blocked duty only; B – pick and carry duties only; C – all duties<br>NPORS N101 (Mobile crane)   |
| 16 Concrete Extrusion Machine           | <ul style="list-style-type: none"> <li>Evidence of: (1) Appropriate training for extrusion machines; (2) Familiarisation training for the type of machine to operated; (3) Pressure washer training</li> </ul>   |
| 17 Mobile Crushing Plant                | CPCS A42 - for all persons operating the crusher<br>NPORS N207 - Crusher   |
| 18 Ride on Compaction Roller            | CPCS A31 - Ride on roller<br>NPORS N214 - Road roller  |
| 19 Tracked Dozer                        | CPCS A34 - Crawler tractor / dozer<br>NPORS N215 - Dozer   |
| 20 Wheeled Loading Shovel               | CPCS A21 - Wheeled loading shovel - together with appropriate endorsement<br>NPORS N209 - Loading shovel   |
| 21 Volumetric Mixer                     | <ul style="list-style-type: none"> <li>Evidence of appropriate training and competence assessment for machine (either by the manufacturer or in-house by an operator previously trained by the manufacturer)</li> </ul>  |
| 22 Suction Excavator (Vacuum Excavator) | CPCS A78 – Vacuum excavator - (Endorsements A-H) that includes: <ul style="list-style-type: none"> <li>A: Trailer - Manual arm; B: Trailer - Semi powered arm; C: Non-KGV - Manual arm; D: Non-KGV - Semi powered arm; E: Non-KGV - Semi powered arm; F: Non-KGV - Fully powered arm (Senior); G: LGV semi-powered arm - Second Operator (Non-LGV driver); H: LGV fully powered arm - Second Operator (Non-LGV driver)</li> </ul> CSCS / EUSR skill card (TT-UK Suction Excavation category) or equivalent<br>NPORS N021 - Suction excavator<br>NRSWA operative competency |

| Plant Category                                    | Competency cards / Driver CPC qualification requirements, as applicable   |
|---|---|
| 23 Self Propelled Articulated or Rigid Dump truck | CPCS A56 - articulated chassis - A - Up to 15 tonnes; B - All sizes (senior)<br>CPCS A59 - rigid chassis - A - Up to 15 tonnes; B - Up to 50 tonnes; C – All sizes wheeled (senior); D – All sizes tracked (separate)<br>NPORS N205 - Rear dump truck |
| 24 Agricultural Tractor                           | CPCS A33 – Agricultural tractor<br>NPORS N601 - Agricultural Tractor  |
| 25 Site Towed Bowser                              | <ul style="list-style-type: none"> <li>Evidence of briefing in operation and safe use the equipment in accordance with manufacturer's instructions / recommendations</li> </ul>   |
| 26 Highway Towed Bowser                           | <ul style="list-style-type: none"> <li>Evidence of briefing in operation and safe use the equipment in accordance with manufacturer's instructions / recommendations</li> </ul>   |
| 27 LDP Piling Rig                                 | CPCS A47 – Piling Rig [Bored below 20 tonnes]; A48 – Piling Rig [Bored above 20 tonnes]   |
| 28 Mini Rotary Piling Rig                         | CPCS A47 – Piling Rig [Bored below 20 tonnes]; A48 – Piling Rig [Bored above 20 tonnes]   |
| 29 CFA Piling Rig                                 | CPCS A47 – Piling Rig [Bored below 20 tonnes]; A48 – Piling Rig [Bored above 20 tonnes]   |
| 30 Driven Piling Rig                              | CPCS A45 – Piling Rig [Driven below 20 tonnes]; A46 – Piling Rig [Driven above 20 tonnes]   |
| 31 Piling Rigs Vibro                              | CPCS A47 – Piling Rig [Bored below 20 tonnes]; A48 – Piling Rig [Bored above 20 tonnes]   |
| 32 Diesel Generator Above 20KVA                   | <ul style="list-style-type: none"> <li>Evidence of demonstrable training and experience in operation of diesel generators (&gt;20kVA)</li> </ul>  |
| 33 Diesel Generator Less than 20KVA               | <ul style="list-style-type: none"> <li>Evidence of demonstrable training and experience in operation of diesel generators (&lt;20kVA)</li> </ul>  |