

<b>Title</b>	<b>Prepare, use, and carry out maintenance on a pendulum drill rig for onsite piling and deep foundation works</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>20</b>

<b>Purpose</b>	People credited with this unit standard are able to: <ul style="list-style-type: none"> <li>– prepare and use a pendulum drill rig for onsite piling and deep foundation works; and</li> <li>– carry out daily and weekly safety and maintenance checks on the pendulum drill rig.</li> </ul>
----------------	---

<b>Classification</b>	Infrastructure Works > Structural Foundations
-----------------------	---

<b>Available grade</b>	Achieved
------------------------	----------

## Guidance Information

- 1 Learning and assessment within this unit standard must be carried out in a construction or infrastructure works environment in accordance with industry requirements and the following legislation, as relevant to the role, and any subsequent amendments:
  - Health and Safety at Work Act 2015;
  - Resource Management Act 1991;
  - Heritage New Zealand Pouhere Taonga Act 2014;
  - Hazardous Substances and New Organisms Act 1996;
  - Traffic Regulations 1976;
  - Land Transport Rule: Vehicle Dimensions and Mass 2016;
  - Land Transport Rule: Heavy Vehicles 2004;
  - *Structural Engineering Society New Zealand (SESOC), New Zealand Geotechnical Society (NZGS) Construction Specification Bored and Driven Piles 2022*, available from [www.nzgs.org](http://www.nzgs.org);
  - *Excavation Safety: Good Practice Guidelines 2016*, available from Worksafe [www.worksafe.govt.nz](http://www.worksafe.govt.nz);
  - *Operator Safety Manual for Earthmoving Machinery 2017*, available from Civil Contractors New Zealand <https://civilcontractors.co.nz/>.
  
- 2 Definitions
 

*Industry requirements* may refer to but are not limited to relevant policies, processes, methodologies, industry codes of practice, site specific health and safety plans, standard operating procedures, site safety plans, quality plans, work plans, traffic management plans, contract work programmes, job safety analysis, safe work method statements, job instructions, manufacturer's requirements, contract specifications, manuals, procedural documents.

*Job specifications* are instructions given to the operator prior to undertaking a job. They may include site safety instructions, contract drawings, and written memos.

*Prestart checks* include but are not limited to damage, cracks, visual defects, leaks, fluid levels, wear, faults, safety and maintenance checks, or any assessment or critical checks for ensuring the safe operation of machinery on an infrastructure works site.

*Walk round* refers to walking around the machine inspecting it and its environment for hazards and removing hazards that may impair start-up.

*Work plans* refer to any job specifications or plans given to the operator prior to undertaking a job.

---

## Outcomes and performance criteria

### Outcome 1

Prepare a pendulum drill rig for onsite piling and deep foundation works.

#### Performance criteria

- 1.1 Pendulum drill rig is confirmed as suitable for onsite piling and deep foundation works in accordance with manufacturer requirements.
- 1.2 Equipment that is provided is described in terms of its functions, and suitability for the work to be carried out.
- 1.3 Pendulum drill rig is prepared for onsite piling and deep foundation works in accordance with manufacturer requirements.
- 1.4 Siting of the pendulum drill rig and the sequence of procedures are planned in consultation with authorised personnel.  
  
Range client representatives, on-site supervisor, engineer.
- 1.5 Site safety precautions are taken, and hazard control measures are implemented prior to commencement of piling activities.  
  
Range environment, people, equipment, services, personal protective equipment.

### Outcome 2

Use a pendulum drill rig for onsite piling and deep foundation works.

#### Performance criteria

- 2.1 Potential hazards during onsite piling and foundation works are identified, and control strategies are described, in accordance with engineer site recommendations.
- 2.2 Communication signals are identified and confirmed.
- 2.3 Onsite piling and deep foundation works are carried out in accordance with equipment manufacturer requirements.

- 2.4 Pendulum drill rig is de-rigged and re-rigged in accordance with manufacturer operating requirements.
- 2.5 Test is conducted in accordance with the pendulum drill rig prior to the drill rig being returned to routine activities.
- 2.6 Documentation is completed.
- Range logs, records, job sheets, lifting equipment inventories, maintenance requests.

### Outcome 3

Carry out daily and weekly safety and maintenance checks on the pendulum drill rig.

### Performance criteria

- 3.1 Daily safety, maintenance and pre-start checks of the pendulum drill rig are carried out in accordance with manufacturer requirements.
- 3.2 Weekly safety and maintenance checks of the pendulum drill rig are carried out in accordance with manufacturer requirements.

<b>Planned review date</b>	31 December 2028
----------------------------	------------------

### Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	27 July 2023	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0101
--	------

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

### Comments on this unit standard

Please contact Waihangā Ara Rau Construction and Infrastructure Workforce Development Council at [qualifications@WaihangāAraRau.nz](mailto:qualifications@WaihangāAraRau.nz) if you wish to suggest changes to the content of this unit standard.