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Soldier Pile Installation Checklist: spacing, plumb, embed

Soldier Pile Installation Checklist for spacing, plumb, embedment, corrosion, and cap details. Interactive checklist, fully commentable, with evidence capture and export as PDF/Excel.

Project:
Date:
Filled by:

Pre-Installation and Materials	
1	Confirm latest approved drawings, geotechnical report, and method statement are on site; obtain written approvals per approved project specifications and authority requirements; file PDFs in project folder.
2	Verify steel section sizes and grades for soldier piles match drawings; cross-check mill certificates and heat numbers; photograph markings and attach certs to lot record.
3	Calibrate total station, digital level, inclinometer, and DFT gauge; verify certificates are in date; upload calibration proofs to checklist before work starts.
4	Establish survey control and benchmarks tied to site grid; record coordinates and elevations; tolerance on control transfer ≤ ±5 mm; attach survey report and photos.

Layout and Spacing	
5	Set out pile centerlines using total station from control points; mark paint/pins; acceptance: centerline within ±10 mm of design; upload layout shots and CSV of points.
6	Verify wall alignment and offsets from property/clearance lines; measure with total station; acceptance: offset within ±15 mm; attach plan overlay and field sketches.
7	Confirm pile numbering and orientation sequence on site boards and tags; acceptance: tags legible and unique; photo evidence and supervisor signature.
8	After placing each pile, measure center-to-center spacing to previous pile with total station; acceptance: spacing within ±10 mm; log readings and as■built coordinates.

Verticality and Alignment	
9	Check temporary casing or guide frame verticality with dual■axis inclinometer; acceptance: plumbness ≤ 1:200; record degrees of tilt and corrective actions.
10	Monitor pile plumb during placement with digital level at two orthogonal faces; acceptance: ≤ 1:200 final; capture mid■height and top readings with timestamped photos.
11	Verify plan alignment along wall with laser/stringline; acceptance: deviation ≤ 10 mm over 10 m; record chainage and offset table; photos of line check.
12	Confirm web/flange orientation per drawings for connection and lagging interfaces; use angle gauge/compass; acceptance: twist ≤ 3°; attach close■ups of orientation marks.

Embedment and Bearing	
13	Measure drilled depth or driven tip elevation using sondage tape or depth counter; acceptance: tip at or below design elevation; record actual depth and elevation.
14	Confirm toe stratum via driller’s log and cuttings/rock strength; obtain geotechnical witness sign■off; acceptance: required stratum reached; attach signed log and photos.
15	Record backfill concrete/grout volumes against theoretical; acceptance: variance within +10% of theoretical; attach batch tickets, delivery times, and temperature readings.
16	Verify cut■off elevation of pile head with staff and digital level; acceptance: ±5 mm; mark cut line, confirm after cut, and upload level book.

Corrosion Protection	
17	Inspect surface preparation grade and cleanliness before coating; verify abrasive profile with comparator; acceptance: as specified; photos before/after blasting.
18	Measure dry film thickness with calibrated DFT gauge at grid points; acceptance: ≥ specified minimum at 90% readings; attach gauge log and calibration record.
19	Perform holiday (pin■hole) testing on coatings using approved detector; acceptance: zero holidays after repair; document voltage setting and re■test results.
20	Confirm specified galvanic/sacrificial measures (sleeves, caps, wraps) installed; acceptance: locations per detail; photo evidence and inspector initials.

Pile Head and Cap	
21	Check pile head bearing surface flatness with straightedge; acceptance: ≤ 2 mm over 300 mm; grind if needed; upload before/after photos.
22	Verify cap beam reinforcement, anchor bolts, and inserts match drawings; acceptance: bar size/spacing and embedment per approved details; attach bar list and photos.
23	Align base/cover plates and bolt groups using drilling template; acceptance: hole pattern within ±3 mm; measure diagonals and record as■built.
24	Confirm welding on cap plates per approved WPS; acceptance: VT free of cracks/undercut; record welder IDs, WPS number, and attach VT report.

Comments:

Filled by:

Signature:

Introduction	How to use this checklist
Soldier Pile Installation Checklist helps field teams verify spacing, plumb, embedment depth, corrosion protection, and cap details for soldier pile installation. This focused scope addresses core soldier piles QA while excluding all lagging works. Within the retaining wall foundation trade, soldier piles—often H■pile soldier beams—must be set out precisely and kept vertical to achieve design performance. Incorrect centerline spacing, poor verticality, or inadequate embedment can lead to wall deflection, overstress, and costly rework. Equally, corrosion protection and the pile head/cap interface influence long■term durability and tolerance control for follow■on works. By standardizing survey practices, acceptance tolerances, and evidence capture, this checklist reduces ambiguity and speeds sign■off per approved project specifications and authority requirements. Use it to align site engineers, surveyors, drillers, and inspectors around measurable outcomes and documented proof, ensuring every installed pile is locatable, plumb, adequately embedded, protected, and cap■ready. Start interactive mode to tick items, add comments, and export PDF/Excel with QR verification.	1. Preparation: create a project, set SI units, and upload approved drawings, specifications, geotechnical logs, and method statements. Add team roles, safety requirements, and equipment calibration certificates for survey, inclinometer, and DFT gauges. 2. Site setup: import survey control points, define pile IDs and design coordinates, and prefill acceptance criteria and tolerances per approved project specifications and authority requirements. 3. Using the Interactive Checklist: start interactive mode, tick items in sequence, add timestamped comments, attach photos/measurements, and log instrument IDs. Use QR scan to open the exact pile lot on mobile. 4. Evidence capture: record centerline, plumbness, tip elevation, DFT readings, holiday tests, and welding VT. Upload batch tickets and signed geotechnical logs. Resolve nonconformances with corrective actions and retests. 5. Sign-Off: collect digital signatures from contractor, inspector, and engineer. Export as PDF/Excel with embedded photos and QR authentication. Distribute to stakeholders and archive with as■built coordinates.