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Install settlement plates or markers: datum ties, protection

Install settlement plates or markers with an interactive checklist commentable and export as PDF/Excel on location, datum ties, protection, and initial readings.

Project:	
Date:	
Filled by:	

Pre-Installation Verification	
1	Confirm latest issued-for-construction drawings, plate/marker schedule, chainage, and offsets; verify revision/date match site scope; upload the marked-up sheet as evidence.
2	Obtain permit-to-dig and scan the area with multi-frequency GPR and a cable locator; acceptance: no utilities within 1.5 m; attach permit and scan images.
3	Check access and working platform condition; acceptance: level within ±20 mm over 3 m and free of standing water; photo evidence with staff and straightedge.
4	Flag proposed plate/marker locations with paint and lath; ensure visibility and no conflict with plant or traffic routes; upload wide-angle site photos.

Survey Controls and Datum Ties	
5	Establish site control using total station or GNSS; acceptance: traverse closure better than 1:10,000; attach control report and coordinate list.
6	Verify benchmark elevation via closed level loop; acceptance: closure within ±3 mm; upload level book or digital level file with instrument calibration certificate.
7	Set out plate/marker center using total station; acceptance: horizontal position within ±25 mm of design; provide stake coordinates and cut sheet.
8	Mark design RL at riser top position on a nearby reference; acceptance: target RL within ±5 mm; photo of staff reading and mark.

Installation of Plates or Markers	
9	Prepare base to firm subgrade; acceptance: level within ±5 mm across plate footprint and free of loose debris; photo with 1 m straightedge.
10	Place settlement plate on clean bedding (or geotextile if specified); acceptance: plate fully bearing, no rocking on tap test; close-up photo evidence.
11	Assemble riser extensions using threaded couplers or solvent-weld PVC; acceptance: plumb within 5 mm per 1 m; spirit level photo and joint details.
12	Backfill and compact around the riser in ≤200 mm layers; acceptance: per approved project specifications and authority requirements; record lot reference and layer photos.
13	Fit survey target or reading plate at the riser head; acceptance: secure fixing, cannot twist by hand; photo showing target alignment.
14	Attach corrosion-resistant ID tag with unique instrument code; acceptance: legible from 1 m; photo of tag and code in log.

Protection and Identification	
15	Install concentric standpipe or slotted casing around riser; acceptance: ≥20 mm radial clearance and vertical within 10 mm per 1 m; photo with tape measure.
16	Provide lockable weather cap; acceptance: fully seated, gasket intact, key recorded; close-up photo and key ID in log.
17	Install bollards or barrier around assembly in high-traffic areas; acceptance: min 300 mm offset, reflective tape fitted; plan-view photo.
18	Post durable signage with instrument ID, contact, and no-disturb message; acceptance: weatherproof and visible from 5 m; photo evidence.

Initial Readings and Documentation	
19	Record initial elevation (RL) with a calibrated digital/auto level; acceptance: two-shot repeat within ±2 mm; upload readings, instrument serial, and time.
20	Capture XYZ coordinates and residuals using total station or GNSS; acceptance: horizontal/vertical residuals ≤10 mm; attach CSV and coordinate system details.
21	Produce an as-built sketch/plan showing chainage, offset, RL, and protection layout; acceptance: includes benchmark tie and north arrow; upload annotated PDF.
22	Complete QA review and obtain contractor and engineer sign-off; acceptance: digital signatures and date; export signed checklist as PDF for records.

Comments:

Filled by:

Signature:

Introduction	How to use this checklist
Install settlement plates or markers correctly to establish reliable baseline data for future settlement monitoring. This checklist guides field engineers and surveyors through siting, survey control, protection, and initial readings for settlement plates and settlement markers. It focuses on location verification against approved drawings, robust datum ties to benchmarks, secure physical protection (standpipes, caps, bollards), and capturing defensible initial readings. By bounding the scope to installation and first measurements, you avoid common risks such as mislocated targets, unreliable elevations, damaged risers, or undocumented references that compromise future monitoring. You will confirm survey control, set tolerances, install the plate or marker assembly, protect it from traffic and weather, and record coordinates and elevations with photos and signatures. Full deformation analysis and trend interpretation are intentionally excluded. Use this as a consistent, auditable process that reduces rework and accelerates approvals. Start interactive mode to tick items, add comments, and export your record as PDF or Excel with a secure QR link.	1. Preparation: Gather total station or GNSS, calibrated auto/digital level, staff, GPR/cable locator, hand tools, plates/risers, standpipe, lockable cap, bollards, signage, geotextile (if specified), paint/lath, PPE (helmets, gloves, hi-vis, boots), and approved drawings. 2. Verify site conditions: Confirm access, permits, and weather; brief the team on tolerances and safety. Identify benchmarks and control points before moving to setout or excavation. 3. Using the Interactive Checklist: Start interactive mode, follow grouped steps, tick items as completed, and attach photos, control reports, and measurement files directly to each step. 4. Capture measurements: Enter coordinates, RLs, instrument serials, and closure/residuals; add comments with context (e.g., obstructions, soft ground) so future teams understand site conditions. 5. Export and share: Generate a timestamped PDF or Excel export for approvals and records; the system embeds a QR code to validate the latest signed version. 6. Sign-off and archive: Obtain digital signatures from contractor and engineer, distribute to stakeholders, and archive with QR authentication for quick retrieval on future monitoring visits.