Generated file by QChecklists
https://quollnet.com

Subgrade Stabilization with Lime/Cement Inspection Checklist

Subgrade Stabilization with Lime/Cement interactive checklist—commentable, evidence-based steps to verify mix, spread, moisture, compaction, and strength. Export as PDF/Excel with QR authentication.

Project:
Date:
Filled by:

Pre-Work Documentation	
1	Confirm approved stabilization mix design; record binder (quicklime/hydrated lime/cement), target binder percentage by dry soil mass, treatment depth, and target UCS age; attach signed approval.
2	Verify latest modified Proctor (MDD and OMC) for the treated soil; record lab ID, MDD (kg/m³), OMC (%), and test date; attach report.
3	Set out treatment limits and depth controls; stake edges, paint offsets, and mark depth on reclaimer; capture layout photos and foreman sign-off.
4	Check weather window: air temperature 5–38 °C, no heavy rain forecast within 24 h; upload forecast screenshot and site wind observations.

Materials Verification	
5	Inspect delivered binder; confirm type matches submittal; record supplier, delivery ticket, lot numbers, and Certificate of Analysis; attach COA and delivery photos.
6	Verify dry, protected storage: pallets off ground, covers secured, no caking or moisture intrusion; photograph storage and note corrective actions if needed.
7	Calibrate spreader using a test strip and weighbridge (before/after); compute application rate (kg/m²) or % by dry soil mass; acceptance: within ±5% of target.
8	Confirm water source suitability and flow measurement; record meter serial, initial/ending readings, and verify no visible sediment or salinity; photo evidence.

Spreading and Mixing	
9	Pre-pulverize subgrade to design depth with reclaimer; measure depth at test pits using ruler/painted probe; acceptance: depth within ±10 mm of design.
10	Spread binder uniformly with calibrated spreader; collect three pan catches per lane; acceptance: pan-to-pan variation within ±10% and no visible streaks; attach photos.
11	Perform first mixing pass to full depth; record machine model, pass speed, and drum settings; acceptance: no untreated zones, binder lumps ≤ 25 mm; photos of cut face.
12	For lime treatment, implement mellowing as per approved plan; keep surface moist and track start/finish times; acceptance: dust suppressed and uniform reaction; log entries.

Moisture Conditioning	
13	Measure moisture after mixing using oven or speedy tester; acceptance: OMC –1% to +2% before compaction; record readings, location, and tester ID.
14	Apply water via controlled spray bars to correct moisture; avoid runoff and ponding; re-mix and re-test; acceptance: no standing water; upload photos and readings.
15	Verify pulverization: sample mixed soil; acceptance: 100% passing 25 mm and ≥60% passing 4.75 mm sieve; photo of field sieve results.
16	Confirm pre-compaction surface shape; check crossfall with level and straightedge; acceptance: ≤10 mm deviation under a 3 m straightedge; photos uploaded.

Compaction and Finishing	
17	Compact with specified rollers (padfoot then smooth drum); record roller IDs, ballast, and pass count; acceptance: ≥95% of MDD achieved; attach nuclear gauge photos.
18	Perform density testing at ≥1 test per 400 m² per lift; document wet density, moisture, dry density, and %MDD; rework and re-test failing areas.
19	Trim and finish surface to line and grade; acceptance: final grade within ±15 mm and crossfall within design ±0.5%; attach survey shots.
20	Apply curing protection (light water spray or approved seal) to prevent drying/carbonation; acceptance: continuous coverage without dusting; record method and rate.

Quality Control Testing	
21	Field pH check for lime-treated mix using calibrated pH meter; acceptance: slurry pH ≥ 12 indicating adequate lime presence; photo of meter display.
22	Sample mixed material for laboratory UCS at specified ages (e.g., 7 days); complete chain-of-custody; acceptance: results meet target strength per approved specifications.
23	Monitor quicklime reaction exotherm with infrared thermometer within first hour; acceptance: stabilized layer temperature at least 5 °C above ambient; log readings.
24	Restrict traffic during cure; install barriers and signage; acceptance: no rutting or surface disturbance >10 mm; daily photos and superintendent sign-off.

Comments:

Filled by:

Signature:

Introduction	How to use this checklist
Subgrade Stabilization with Lime/Cement sets a clear, auditable process for verifying lime-treated and cement-stabilized subgrades from batching through compaction and curing. This checklist focuses on binder verification, spread rate control, moisture conditioning, thorough mixing, compaction to density, and confirmation of target unconfined compressive strength—without addressing pavement design. By aligning field activity with the approved mix design and practical acceptance tolerances, you reduce variability, avoid soft spots, mitigate shrink-swell soils, and achieve durable support for overlying layers. It covers pozzolanic reactions in lime treatment, cement stabilization behavior, optimum moisture content management, pulverization criteria, density testing, and curing protection. Use it to capture photos, readings, COAs, nuclear gauge outputs, and lab results while maintaining traceable approvals per approved project specifications and authority requirements. Start in interactive mode to tick items, add comments for non-conformances, and export records to PDF/Excel with a QR code for authentication.	1. Preparation: Gather approved mix design, Proctor data, COAs, calibrated scale records, nuclear gauge, moisture tester, pH meter, infrared thermometer, sieve kit, straightedge, survey gear, cameras, PPE, and traffic control materials. 2. Create a project session: enter location, lot boundaries, design depth, target binder percentage, and required density/strength; assign inspectors and contractors with notification permissions. 3. Using the Interactive Checklist: start interactive mode, tick items as completed, attach photos, readings, and files; @mention responsible parties to resolve comments in real time. 4. Capture evidence in context: log spreader calibration, pan catches, moisture tests, density results, pH readings, and curing logs; use time-stamped photos and GPS-tagged entries. 5. Monitor progress: filter by group (documentation, materials, mixing, moisture, compaction, testing) and track status to close open non-conformances before work advances. 6. Export and share: generate commentable reports and export as PDF/Excel; the QR code on each export links back to the authenticated record set. 7. Sign-Off: collect digital signatures from contractor, inspector, and owner’s representative; lock the record and archive with version control for future audits.