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Basement/Tank Flood Testing: From Isolation to Sign-Off

Basement/Tank Flood Testing made simple with an interactive checklist that’s commentable and easy to export as PDF/Excel; verify isolation, fill/hold, leak repairs, and sign-off.

Project:	
Date:	
Filled by:	

Pre-Test Planning & Safety	
1	Obtain approved test plan detailing segment limits, target head, hold duration, and discharge method; acceptance: plan signed per approved project specifications and authority requirements; evidence: ITP/Method Statement with signatures.
2	Confirm waterproofing/repairs have cured per manufacturer data sheet; acceptance: minimum cure time met; evidence: product data sheet reference, batch/lot numbers, timestamped photos.
3	Issue confined space and electrical isolation permits; implement lockout/tagout; gas-test atmosphere; acceptance: O2 19.5–23.5% and no explosive gases; evidence: permits and meter readings/photos.
4	Verify structural readiness: seal tie-holes/penetrations and close valves; acceptance: no unsealed openings; evidence: photo log and supervisor sign-off.
5	Calibrate measuring devices (staff gauge, digital level, datalogger) within 6 months; acceptance: valid calibration certificates; evidence: cert copies and device serial numbers.
6	Confirm emergency pump and discharge capacity equals or exceeds planned inflow; acceptance: pump duty ≥ inflow, tested run; evidence: pump curve, test video/photo.

Segment Isolation & Instrumentation	
7	Install temporary bulkheads/bladders to isolate the test segment; acceptance: no visible bypass; evidence: dye check at seams and photo of seals.
8	Fit at least two staff gauges on opposite walls plus a datalogger; acceptance: legible 5 mm graduations; evidence: close-up photos and logger timestamp check.
9	Mark permanent reference benchmarks at 0.5 m vertical intervals; acceptance: indelible markings; evidence: overview and close-up photos.
10	Place an evaporation pan (≥0.20 m²) near the test area at same depth; acceptance: initial reading recorded; evidence: pan photo with ruler.
11	Install tell-tale pads at joints, penetrations, and cold seams; acceptance: dry baseline; evidence: timestamped baseline photos.

Controlled Filling	
12	Record water meter start reading and serial number; acceptance: traceable source; evidence: meter face photo and log entry.
13	Fill at ≤0.5 m head per hour to target head per plan; acceptance: rate not exceeded; evidence: time-stamped level readings and fill log.
14	Pause every 0.5 m rise to inspect walls/floor for seepage; acceptance: no damp patches; evidence: photos each pause with level shown.
15	Stop 50 mm below the lowest opening; verify to nearest 5 mm; acceptance: target head achieved; evidence: gauge close-up and benchmark shot.

Hold Period Monitoring	
16	Start hold timer for ≥24 h or as specified; acceptance: timer running; evidence: screenshot/photo of timer start and planned end time.
17	Log water level hourly for first 4 h, then every 4 h; acceptance: complete dataset; evidence: datalogger export or manual log with timestamps.
18	Record ambient temperature and RH each reading; acceptance: instrument accuracy ±1 °C, ±5 %RH; evidence: meter photos and values in log.
19	Measure evaporation pan drop to correct tank loss; acceptance: net loss after correction within project threshold; evidence: calculation sheet and photos.
20	Inspect for damp spots using flashlight and dry cloth; acceptance: cloth remains dry; evidence: photos of any anomalies.

Leak Inspection & Documentation	
21	Apply harmless tracing dye near suspected paths; acceptance: no dye migration; evidence: video/photo of test and outcome.
22	Survey joints, tie-rod holes, sleeves, and sumps; acceptance: no active drips; evidence: GPS-tagged photos and marked locations.
23	Grid the floor (2 m × 2 m) with chalk; annotate wet cells; acceptance: comprehensive map; evidence: plan photo and digital markup.
24	Quantify drip rate with graduated cylinder and stopwatch; acceptance: 0 mL/min; evidence: volume-time record; trigger repair if >0.

Drain-Down, Repairs & Sign-Off	
25	Discharge water via approved route with sediment control; acceptance: permit noted; turbidity <50 NTU; evidence: sample photo and reading.
26	Dry surfaces and execute repairs with approved materials; acceptance: cure time met; evidence: batch numbers, data sheets, and repair photos.
27	Re-test repaired areas using same fill/hold protocol; acceptance: no net loss and no damp areas; evidence: new log and photos.
28	Compile report with plots, photos, calculations, and corrections for evaporation; acceptance: reviewed and approved; evidence: signed PDF.
29	Affix QR code label at access point linking the final report; acceptance: QR scan verified; evidence: label photo and verification screenshot.

Comments:

Filled by:

Signature:

Introduction	How to use this checklist
Basement/Tank Flood Testing confirms the watertightness of concrete basements, water tanks, and vaults using a controlled hydrostatic test. This checklist guides segment isolation, measured filling, hold monitoring, and leak inspection—sometimes called a hydrostatic test, water intrusion check, or watertightness verification. You'll document pre-test readiness, head control, evaporation compensation, leak mapping, repairs, and re-testing, culminating in a clear sign-off. Scope boundaries: structural flood testing only—spark tests for coatings are expressly excluded. The process addresses risks like hydrostatic uplift, over-topping, uncontrolled discharge, and missed pinhole leaks by using calibrated instruments, staged fills, and strict evidence capture. Outcomes include reduced post-backfill failures, faster root-cause analysis, and transparent QA records for handover. Use this interactive, commentable checklist to tick each step, capture photos and readings, and assign actions. When finished, export as PDF/Excel with embedded QR for field verification and sharing with stakeholders.	1. Preparation: gather calibrated staff gauges or a datalogger, evaporation pan, dye, graduated cylinder, stopwatch, pumps/hoses, temporary bulkheads, PPE (confined space), lighting, and approved plans. Confirm water supply, discharge permits, and emergency pumping capacity before mobilizing. 2. Configure the project: open the checklist, enter segment ID, target head, hold duration, environmental data fields, and responsible stakeholders. Set reminders for reading intervals and attach relevant drawings or method statements. 3. Use interactive mode: tick items as completed, add time-stamped comments, and upload photos of gauges, pans, and suspect areas. Assign corrective actions to team members and track status in real time, even offline if supported. 4. Export and share: generate an export as PDF/Excel with level trends, calculations, and photos. Enable QR code authentication so field users and reviewers can open the exact signed report from the access point. 5. Sign-off and archive: capture digital signatures from contractor, consultant, and client. Lock the record, distribute to stakeholders, and archive the QR-linked report within your project CDE for future audits.