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Method Statement: Brickwork Cleaning and Repointing

IN SUPPORT OF A

Listed Building Application

AT

Penleigh Farmhouse, Penleigh, Westbury

prepared by

Atelier 17 Ltd

July 2026 - Revision 01

Method Statement: Brickwork Cleaning and Repointing

Project Type: Heritage Conservation / Listed Building Maintenance

Project Location: Penleigh Farmhouse, Fairwood Road, Penleigh, Dilton Marsh BA13 4 EB

Building Type: Domestic / Grade II Listed

Date: July 2026

Scope of Works: Cleaning and Repointing the southern and middle range of the existing building.

1. Purpose and Scope

This method statement outlines the procedures for the sympathetic cleaning and repointing of brickwork on a listed building. The primary objective is to preserve the structural integrity and historical character of the fabric using traditional materials and non-destructive techniques.

2. Health, Safety, and Environmental Controls

- **PPE:** Hard hats, safety boots, high-visibility vests, safety goggles/face shields, and appropriate gloves (nitrile for mortar handling). Dust masks (FFP3) are mandatory during raking out.
- **Access:** Appropriately tied, fully boarded scaffolding with debris netting to prevent falling material.
- **Environmental Protection:** Tarpaulins and localized bunding to catch debris and rinse water. Avoid any harsh chemical runoff into local drainage.
- **COSHH:** Assess all materials (e.g., biocide, lime) prior to use. Keep Safety Data Sheets (SDS) on-site.

3. Step-by-Step Procedure

Phase 1: Preparation & Trial Panels

- **Approvals:** No work will commence until sample panels (typically 1m × 1m) for both cleaning and repointing have been prepared, dried, and reviewed for visual consistency against existing.
- **Protection:** Protect all windows, doors, leadwork, and adjacent non-brick surfaces with heavy-duty polythene and timber hoarding where necessary.

Phase 2: Gentle Cleaning

Critical Rule: The goal of cleaning a listed building is to remove harmful pollutants and organic growth without altering the historic face of the brick. *Never use high-pressure jet washing or aggressive sandblasting.*

1. **Dry Brushing:** Remove loose dust, moss, and debris using soft bristle brushes.

2. **Misting / Nebulous Water Spray:** For stubborn carbon crusts, use a low-pressure nebulous water spray system. This softens the grime over hours without soaking the core masonry.

Phase 3: Raking Out Defective Mortar

1. **Tool Selection:** Use hand chisels (specifically narrow plugging chisels) and lightweight mallets. **Mechanical angle grinders are strictly prohibited** as they easily slip and slice into historic brick edges (arises).
2. **Depth:** Carefully remove failed, loose, or cementitious mortar to a depth of roughly twice the joint width (minimum 15mm–20mm), or until sound historic mortar is reached.
3. **Profile:** Ensure the back of the joint is cut square, not a 'V' shape, to provide a solid bed for the new mortar.
4. **Debris Removal:** Brush or gently flush the joints with clean water to remove all dust and loose particles.

Phase 4: Mortar Preparation and Mixing

- **The Mix:** Do not use Ordinary Portland Cement (OPC), as it is too hard and impermeable, trapping moisture and causing the historic bricks to spall. Use a traditional, breathable mix:
 - *Option A:* Naturally Hydraulic Lime (typically NHL 2 or NHL 3.5 depending on exposure) mixed with well-graded sharp sand/aggregate (1: 2 or 1: 2.5 ratio).
 - *Option B:* Non-hydraulic lime putty (1: 3 with aggregate), matured before use.
- **Color Matching:** Aggregates must match the original historic mortar in color, grain size, and texture (e.g., inclusion of small charcoal or limestone flecks if historically present).
- **Mixing:** Mix thoroughly using a paddle mixer to ensure complete hydration and consistency. Keep water content to the absolute minimum required for workability.

Phase 5: Repointing Application

1. **Dampening:** Dampen the joints with a fine water mist just prior to pointing to prevent the dry brick from rapidly sucking moisture out of the new lime mortar (which causes cracking and failure).
2. **Placing:** Pack the mortar firmly into the joints in layers (maximum 10mm deep per layer if deep packing is required), allowing the initial layer to set slightly before applying the next. Use a pointing iron or spatula slightly narrower than the joint.
3. **Finishing Profile:** * Fill the joint slightly proud of the brick face.
 - Allow the mortar to become "leather-hard" (firm but malleable).

- Struck or stippled finish: Gently stipple the joint with a stiff-bristle churn brush to compress the mortar, expose the aggregate, and remove any shine. The profile should match the historic precedent (usually flush or slightly recessed, never a modern weather-struck finish unless explicitly requested).

Phase 6: Curing and Protection

- **Moisture Management:** Lime mortar cures by carbonation and requires slow drying. Mist the finished brickwork with water daily for the first 3–4 days.
- **Weather Shielding:** Cover the completed walls with damp hessian (burlap) sheeting, followed by plastic wrap, to protect the fresh mortar from direct sunlight, drying winds, heavy rain, and frost.
- **Temperature:** Do not carry out pointing if temperatures are expected to drop below 5°C within the curing period.

4. Quality Control & Sign-off

- Continuous monitoring to ensure no damage occurs to the brick arises.
- Inspection of joint depths and cleanliness before mortar application.