Design and Access statement: installation of air source heat pump at Chequer Meadow Cottage DE4 4AF

This statement supports an application for listed building consent to install an air source heat pump at the rear of Chequer Meadow Cottage.

The proposal seeks consent to permanently remove the redundant oil boiler and its external fuel tank, replacing them with a highly efficient, low-carbon Samsung Mono R290 8kW Air Source Heat Pump.

The removal of the boiler will leave a structural void in the wall where the current boiler vent and flue pipe sit. The repair of this void presents an opportunity to proactively restore the historic fabric.

The wall repair will be undertaken by a qualified specialist stonemason adhering strictly to conservation guidelines:

- **Materials:** The wall will be repaired using locally sourced, matching reclaimed face stones.
- **Mortar:** Traditional, breathable Natural Hydraulic Lime (NHL) mortar will be used exclusively. Modern Portland cement will be entirely avoided to safeguard the breathability of the stone wall.

3. Design, Siting, and Acoustic Considerations

- **Siting:** The outdoor Samsung heat pump will be positioned at ground level directly in front of the repaired wall section in the same spot that the current oil boiler sits. The unit will be entirely free-standing on a dedicated concrete floor slab, ensuring no load, vibration, or structural weight is transferred onto the historic stone wall.
- **Visual Impact:** The heat pump will be sited at the rear of the house, ensuring it is not visible from any public highway or the front of the building, thereby preserving the visual character and setting of the listed building.
- **Refrigerant Choice:** The selected Samsung system utilizes **R290 (Propane)** natural refrigerant. This choice reflects a commitment to the highest environmental standards.
- **Acoustic Profile:** The Samsung unit operates well within permitted noise thresholds. Acoustic data sheets are attached to this application to demonstrate compliance with MCS 020 standards, ensuring no detriment to local residential amenity.
- **Internal Space Preservation:** By selecting an innovative, ultra-compact Heat Geek Mini Store 80L thermal capacitor rather than a standard, bulky 200L cylinder, the installation requires no structural alterations internally, wall removals, or layout changes to the internal rooms of the home.

4. Conclusion

The proposed works represent a sympathetic, high-quality intervention that aligns with current heritage guidelines on the decarbonisation of historic buildings. The removal of a prominent, modern fossil-fuel appliance and the subsequent traditional restoration of the stone wall by a skilled mason will result in a net positive impact on the historic fabric. We respectfully request that Listed Building Consent be granted.