

Hedge End – Planning Condition 13

This statement has been prepared to discharge Planning Condition 13 for the Care Home development in Hedge End.

Ventilation and Air Emissions

The care home development in Hedge End is being designed with mechanical ventilation systems that ensure adequate indoor air quality for residents, staff and visitors, while minimizing the impact of air emissions on the surrounding environment and complying with the Air Quality Objectives set out in the UK Air Quality Strategy and Eastleigh Borough Council's Air Quality Action Plan, and relevant DEFRA guidance.

As detailed in the MEP Performance Specification, the proposed systems will comprise of Extract fans operating on a trickle and boost system to maintain air movement, with replacement air via trickle ventilators. Mechanical Ventilation systems with Heat Recovery (MVHR) providing continuous supply of filtered fresh air and the extraction of stale air from internal spaces. The MVHR systems will incorporate high efficiency particulate air or equivalent filters, which remove airborne particles and improve air quality.

All Kitchen extract systems (by specialist contractor) are fitted with appropriate filtration, including grease and carbon filters where required to minimize odor and particulate emissions. Extract discharge points have been located on the roof away from sensitive receptors such as neighboring residents.

The systems will be designed in accordance with relevant guidance and standards including.

- Building Regulations Approved Document F
- CIBSE guidance.
- DEFRA guidance.

Any noise from the ventilation plant is controlled by acoustic attenuation and anti-vibration mounts where required.

The ventilation systems will be subject to regular maintenance to ensure continued efficient operation. Filters will be replaced in accordance with the manufactures recommendations. The system will be periodically inspected to ensure emissions remain within an acceptable limit.

In summary, the ventilation systems will incorporate best practice design measures to minimize air emissions, control odor and protect local air quality.

Heating and Cooling Equipment

The care home development in Hedge End will be served by high-efficiency, low-emission heating and cooling plant designed to minimize environmental impact and comply with current regulatory standards and complying with the Air Quality Objectives set out in the UK Air Quality Strategy and Eastleigh Borough Council's Air Quality Action Plan, and relevant DEFRA guidance.

The primary heating and cooling strategy is based on electrically driven air source heat pumps (ASHP's) which provide both heating and cooling to the building via air conditioning and underfloor heating. This approach avoids on-site combustion and therefore eliminates direct emissions of nitrogen oxides (Nox) particulate matter (PM) and other combustion related pollutants.

All external plant including condensers and heat pumps will be located at roof level. Equipment will be positioned to ensure adequate dispersion of any minor heat rejection and to avoid impacts on sensitive receptors and neighboring residents.

The selected systems will use refrigerant with low Global Warming Potential where practicable and will be designed to operate efficiently under the varying load conditions to reduce the overall energy consumption and indirect emissions associated with electricity use.

The design and specification of the heating and cooling systems will be in line with the relevant standards and guidance including.

- Building Regulations Approved Documents L and F
- CIBSE guidance.
- DEFRA guidance.

A planned maintenance regime will be put in place by the end user to ensure that all plant operates to perform in accordance with the manufacturer's specifications. This includes regular inspection, servicing and refrigerant management in line with the manufacturers recommendations.

In summary, the heating and cooling strategy prioritizes low emissions technologies and eliminates on site combustion.