SUSTAINABLE DRAINAGE SYSTEM - SuDS

Soft landscape will incorporate SuDS design, adopting techniques to deal with surface water runoff locally, through collection storage, and cleaning before allowing it to be released slowly back into the environment.

ELECTRIC VEHICLE CHARGING

Electric cars contribute towards improving air quality in towns and cities. With no tailpipe, pure electric cars produce no carbon dioxide emissions when driving. This reduces air pollution considerably.

EDIBLE LANDSCAPE/ DECIDUOUS TREES

Edible landscapes, increase the diversity of insect populations, create habitat for birds and other wildlife. Deciduous trees provide shade during the summer and allow the sunlight to passively heat the dwellings in the winter.

PERMEABLE PAVING

The material has open voids across the surface of the material or around the edges of blocks that allow water to soak in.

ENERGY-EFFICIENT GLAZING

The North facade is highly glazed to capture large amounts of natural light.

Efficient glazing reduces the amount of heat loss through the windows and allows more heat from the sun through the glass providing solar gain.
It also includes solar control so overheating doesn't become a problem.

OPTIMAL SOUTH ORIENTATION

By having the optimal South orientation and tilt we maximise the system output.

EFFICIENT APPLIANCES

Air-source heat pumps will be the main heating system and will be combined with efficient biomass stoves that will reduce energy consumption

RAINWATER HARVESTING

Rainwater will be collected, stored and reused for landscape irrigation, flushing toilets and washing clothes and cars.

COMPACT BUILDING ENVELOPE

Making the building form more compact reduces the amount of envelope to heat. Concrete floors and brick plinths will provide thermal mass to the building.

GREEN INFRASTRUCTURE

Native hedges and areas of long grass/wildlife meadows will create a green infrastructure that will offer food and shelter for wildlife.

HIGH PERFORMANCE ENVELOPE

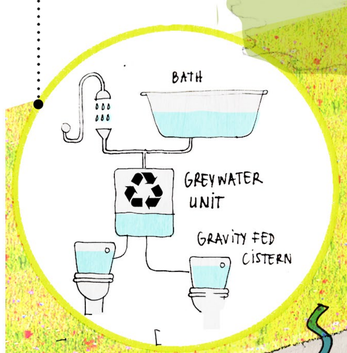
A super-insulated envelope detail that will aim to achieve a 30% over and above the values required by Building Control.

30%

reduction of energy demands because of passive systems

GREYWATER REUSE

Greywater from showers and baths will be reused for flushing toilets via greywater storage and treatment unit. Water saving appliances will be installed throughout to achieve target of a 110l water consumption.



NATURAL CROSS-VENTILATION

Windows and vents placed on opposite sides of the building give natural breezes a pathway through the structure.

LOW EMBODIED CARBON MATERIALS

Low embodied carbon materials, from local and sustainable sources.
Existing bricks will be reused. Locally available resources will be used efficiently to reduce waste, to reduce energy used in manufacture and to design products with the longest possible life span and best performance.

DESIGN
A sustainable building considers its architectural context

INDOOR QUALITY
Maximize health, minimize impact

MATERIALS
Safe, healthy and responsible for all species

WATER
A sustainable building is water efficient

SITE
Reduced site impact

ENERGY
A sustainable building relies on solar income

3. MECHANICAL EQUIPMENT
Minimal use of mechanical systems

2. PASSIVE SYSTEMS
Natural Energies
- Heating: Direct gain
- Cooling: Comfort ventilation

1. BASIC BUILDING DESIGN
Winter: Maximize Heat Retention
Summer: Heat Avoidance

TIERED DESIGN APPROACH

No dimensions are to be scaled from this drawing

Rev.	Date	Description	Name
A	03.02.2023	Relocate building towards the north and vehicular access from existing right of way	AR

QUINBURY FARM COTTAGE
HAY STREET
BUNTINGFORD

REPLACEMENT DWELLING
SUSTAINABLE STRATEGY

Kirby . Cove . Architects
Studio 10 Dimsdale House Hertford SG14 1BY 01992 538088

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drawn AR	date January 2022	chk A -	chk B -	scale -