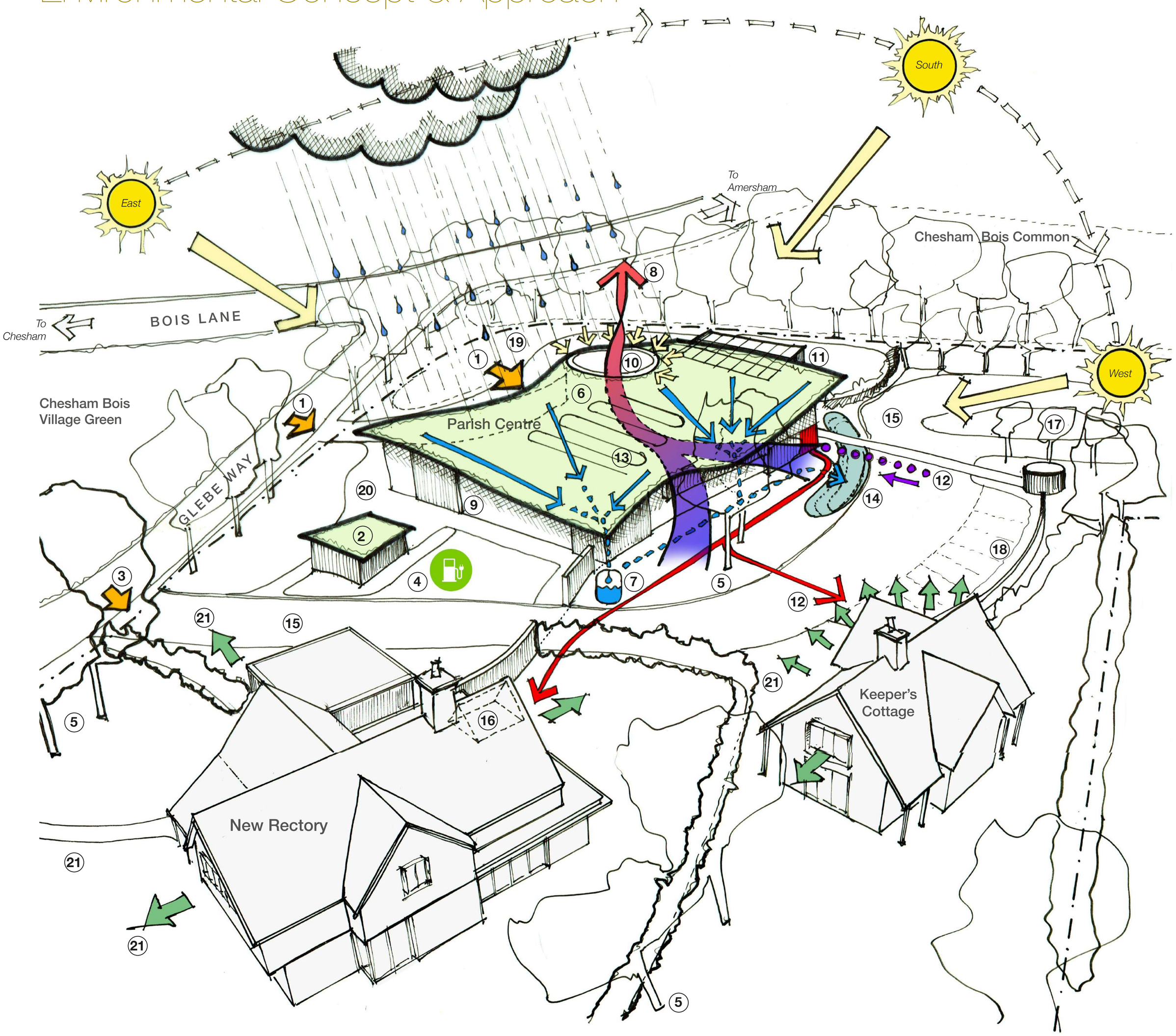
Environmental Concept & Approach



1 Main Pedestrian Access
The new Parish Centre orientated towards Glebe Way and the Village Green to reinforce the public nature of the building and encourage visitors to arrive on foot or bicycle.

2 Covered Cycle Parking
A large covered and secure cycle and pushchair parking shelter at the front of the building and close to the entrance.

3 Vehicle and Service Entrance
A secondary vehicle entrance in the same position as the existing Parish Centre access leads to car parking and drop-off areas.

4 Electric Vehicle Charging
Provision for electric vehicle charging stations are to be provided through-out the primary parking area.

5 Retained Trees
Significant existing trees are to be retained as outlined by the Local Planning Authority Tree Officer and complemented by new tree planting as proposed in the landscape design.

6 Green Roof
The green roof is natural and will reduce the impact of the Parish Centre on the site by replacing some of the vegetation disturbed by the building's footprint. It suits the concept of a free form roof because it is a flexible material that can be contoured to suit the design. The aesthetic of the green roof will blend the building into the woodland setting and have the following characteristics:

- It will change seasonally in terms of colour and texture.
- It will be low maintenance and have a life expectancy of 50+ years.
- The green roof sedum covering will act as protection to the roof membrane.
- A green roof is a living thing with its own ecosystem.
- It is breathable and responds to its environment.
- It will be a biodiversity enhancement.
- A green roof will reduce the need for water management on site by reducing the rain water run off.
- It will further enhance the thermal properties of the roof.
- The green roof covering will be harvested in the UK.
- A green roof will improve the air quality by filtering pollutants and carbon dioxide.
- It will bring educational opportunities as it demonstrates sustainability.
- The green roof will require an irrigation system during dry spells (water will be harvested for this).

7 Rainwater Harvesting
Below ground rainwater harvesting tank to store water for garden and roof irrigation.

8 Natural Ventilation
Use of natural ventilation to the Main Hall, Multi-Purpose Hall and Café/Mezzanine and other ancillary areas making use of the buildings natural roofline to provide stack induced ventilation.

Where used, mechanical ventilation shall incorporate heat recovery (minimum 80% recovery) where the building arrangement permits to increase efficiency.

9 High Performance Building Fabric
The building fabric and construction will be specified to provide low U-Values for heat loss reduction, low air permeability and high specification of glazing, incorporating passive solar control measures where practicable (solar control film and/or solar shading).

10 Natural and Electrical Lighting
The roof includes a large glazed opening to the centre of the main hall. This together with a central deflector is designed to uplight the underside of the roof and therefore maximise natural light. All other spaces have large areas of glazing to reduce the reliance on electrical lighting. Where electrical lighting is required, this will be 100% low energy with daylight and motion control.

11 Solar Photovoltaic Panels
PV will be incorporated into the roof in the future with the intention of exceeding the minimum requirements to offset the annual CO^2 emissions of the Air Source Heat Pump system. An area of green roof is to remain uncovered for this purpose.

12 Air Source Heat Pump
An air source heat pump (ASHP) system will be used to provide energy efficient heating and hot water to the buildings from a renewable source. The ASHP will also provide efficient cooling to areas of the building to prevent overheating by utilising the system in reverse in the summer in conjunction with local fan coil units. A shared ground loop array system would be used to provide energy efficient heating and hot water to the houses from a renewable source. The shared ground loop will ensure that maximum efficiency is obtained from the system.

13 Underfloor Heating (and summer cooling)
A west underfloor heating system is to be installed to the ground floor concrete slab to maximise the GSHP efficiencies. During summer months the system can be reversed to cool the thermal mass of the floor slabs. Installed services will be 'zoned' to allow maximum space flexibility with minimum energy wastage.

14 Swale
This linear grass covered depression will lead surface water overland from the roof and hardstanding areas to the storage or discharge system. It will provide temporary storage for storm water and reduces peak flows. It will be dry during dry weather but in wet weather, rainwater flows into it along its length and moves slowly through the grass area. The grass slows down and filters surface water flows. Sediment is deposited while oily residues and organic matter are retained to be broken down in the top layer soil and vegetation. This provides a sustainable urban drainage system and biodiversity enhancement.

15 Permeable Hardsurfacing
All hardsurfacing is to be permeable to minimise water run-off.

16 Bat Roost
Integrated into the new Rectory loft.

17 Woodland Parking
New tree planting combined with the secondary parking area.

18 Flint Gabion Wall
Low wall marking the edge of the primary parking area and providing a buffer.

19 Woodland Play Area

20 Outdoor Seating Area

21 Natural Surveillance
Clear lines of sight to all areas of the Parish Centre and entrance from the Rectory and Keeper's Cottage for security and management of the site.

rev	date	note
PL1	17.01.20	Planning Application Submission

dwg
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25.11.19

Drawing Title
Environmental Concept and Approach

Client
PCC of St Leonard's Church

Project Title
St. Leonard's Church Parish Centre
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