



chambers (bark pits), reed beds and in the ponds on site: the foul water will be converted into usable compost. Compost will be formed by planting nutrient-absorbing species onto sediment collection bunds situated next to the forest garden. Rainwater will be collected and some treated for use as drinking water and for kitchen use. The bulk of the rainwater will be stored in a subterranean tank, purified, and introduced into the building under pressure for WCs, washing machine and dishwasher.

The wildlife pond, being at the end of all aquaculture systems, acts as a large buffer for all water systems. In the summer, a solar PV panel pumps water from the wildlife pond to the aquaculture pond to prevent adverse conditions affecting the various species in the pond. The wildlife pond benefits from fluctuations in depth, as water is pumped to the aquaculture pond permitting a unique habitat to be formed, supporting species which otherwise would not exist on the site.²³

This is a holistic concept for building and landscape based upon ecological sustainability. The individual elements interact to form the complete ecosystem. It is a concept designed to change and develop as the users come to terms with, and form a symbiotic relationship with, the plants and creatures which also occupy the site. The project designed by Gale and Snowden is a practical application of the principles of permaculture as developed by Mollinson: 'The philosophy behind permaculture is one of working with, rather than against nature; of protracted and thoughtful observation, rather than protracted and thoughtless action; looking at systems in all their functions: and of allowing systems to demonstrate their own evolutions'.²⁴

Figure 5.18 Design for ecological sustainability in Surrey.



Figure 5.19 Design for ecological sustainability in Surrey.

THE RAILWAY COTTAGES, DERBY

(Designed by Derek Latham & Company Limited)
Two decades after their conservation was undertaken, the Railway Cottages in Derby (Figure 5.20) are a thriving urban village and a fine example of sustainable living. The village is not a self-sufficient community according to the strict definition by Mollinson. It does not, for example, produce its own food or energy but it has other features associated with sustainable development. There is a well-formed community which has been actively involved with the development. The community lives within walking distance of the city centre and a few yards from the railway station. While some of the residents own cars, the development is not dependent on the car for its continued existence. The Railway Cottages are located in an area where

there are many workplaces and job opportunities. The development also sets a high standard both for conservation practices and for environmental design, two criteria for defining sustainable development. The Railway Cottages in Derby are a particularly appropriate case study, illustrating the practical development of an urban village which adheres to many of the precepts associated with sustainable development.

The Railway Cottages were built in 1840 and are the earliest known railway company cottages in the world. They are adjacent to Derby's station outside the Borough boundary. Despite a campaign to save the cottages by Derby Civic Society, the Council in Derby was not persuaded to rescue them for council housing. They were scheduled for demolition, being on the line of a proposed inner relief road. The only