

## 1. ECO-VILLAGE PROPOSAL AND PRINCIPLES

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The purpose of this report is to outline the progress made by the Burwood/Pegasus Community Board's Eco-village Working Party and options for advancing the Eco-village proposal and principles by seeking wider Council involvement.

### INTRODUCTION

Since May 2000, the Eco-village Working Party has been developing a proposal for an Eco-village on a Council-owned site at Owles Terrace (refer to attached map). This report outlines the concept for the site in general terms and a precis of the principles and philosophies upon which it is based. A seminar on the proposal was given to the Environment and Community Services Committees at the end of last year.

However, in July last year, a study commissioned by the Property Unit identified some on-site contamination. The Owles Terrace site is a former landfill dating from prior to the 1930s and at the northern end of the site a layer of refuse was found, creating possible contamination, gas build-up and soil stability issues. The site is also susceptible to liquefaction and lateral spread in an earthquake.

Various options are available for managing these risks that will need to be assessed by the Property Unit. At this stage, the identified risks do not appear to discount use of the site for housing. A year has been allowed for further monitoring of the contamination of the site, although the Property Unit is hopeful of reaching an outcome later this year.

Due to these issues the project is currently on hold. However, the Working Party considers that, given the scale of the project and the wider issues it raises, the involvement of the Environment Committee should be sought to advance the proposal and/or its principles.

### BACKGROUND

The Eco-village initiative arose from the Board's Community Gardens Subcommittee investigation of the establishment of community gardens and composting schemes within the Burwood/Pegasus area. The Board saw an opportunity for the Council to take the lead in the broader area of ecologically sensitive communities and established the Eco-Village Working Party to consider the concept. The Working Party has drawn upon Community Board members and staff, Councillors, members of the community and officers from the Waste Management, Environmental Policy and Planning, Property and Parks Units.

The Council-owned site at Owles Terrace appeared to have potential as a pilot for an Eco-village. The northern section of the site, approximately 4 hectares, was rezoned from O2 to Living 1, after which the Property Unit was asked to investigate options for residential development. For the Eco-village option to be considered, the Working Party was required to establish a detailed proposal that could be measured against the "highest and best use" of the land. The Council has budgeted a net revenue of \$1.5 million for the Owles Terrace site from anticipated property development and sales.

### ECO-VILLAGE CONCEPT

#### Principles

The Eco-village concept involves the application of social, economic and environmental principles within a community. As well as meeting the lifestyle aspirations of residents, an Eco-village would serve as a model of sustainability to the wider community.

The principles underlying the concept are:

- *Environmental design.* An Eco-village is integrated with its surrounding natural environment, blending sustainable urban design and permaculture and indigenous planting. The design aims for energy efficiency and reduced need for purification systems.
- *Economic design.* Individual financial autonomy is retained while significant community ownership of amenities and land and sharing of resources is encouraged.
- *Social design.* A housing option where diversity is respected and the community is drawn together and supported.

- *Housing development and self-build.* While a developer may build the majority of units to the residents' requirements and an overall site plan, the option of self-build may be provided for individuals or as part of a self-build scheme.
- *Neighbourhood integration.* Integration with the neighbouring area would be encouraged.
- *Concept development.* Designing is done in collaboration with future residents and other affected parties.
- *Experimentation.* Use of alternative technologies in aspects such as building materials, water collection and purification, and waste minimisation and reuse. Alternative governance systems could be trialled.

### **Part of a Sustainable Christchurch**

An Eco-village would be a significant step towards the vision of a sustainable Christchurch. Establishing a sustainable community could encourage the application of sustainability principles in other developments and communities.

The concept fits well with philosophies endorsed by the Council such as the Natural Step. This approach establishes social and ecological indicators for sustainable development. Key elements, incorporated in the Eco-village concept, are:

- Reducing mining and fossil fuel use.
- Eliminating hazardous substances produced by society.
- Protecting biodiversity and ecosystems.
- Using resources efficiently and equitably to save money, reduce waste and meet human needs.

The concept is also supported by a number of other philosophies including Agenda 21, a holistic approach to sustainable development; permaculture, a self replenishing method of growing; and co-housing, which is a community housing model.

### **Examples of Eco-villages**

The Eco-village concept is not a new one and many good examples exist overseas. For example, in Sweden alone there were 15 fully developed Eco-villages in 1998 and a further 12 under construction or in a well advanced planning stage. The number of residents range from a dozen to over 100. In New Zealand, Eco-village developments or planning underway include:

- Swanson Road neighbourhood in Waitakere City.
- A Landcare Research subdivision at the East Block, Lincoln (5 hectares).
- Some sustainability principles incorporated in the Council developments at Beckenham and Hornby.

An overview of the Waitakere City and Lincoln projects is attached.

### **OWLES TERRACE PROPOSAL**

#### **Suitability of Site**

The Owles Terrace site offers a number of advantages for the development of an Eco-village:

- A large site (approximately 4 hectares) able to accommodate an entire neighbourhood grouping.
- A defined area with the river, adjacent open space and street frontage.
- Access to public transport, schools and community facilities.
- Uninterrupted north sun allows for energy efficiency methods to be utilised.
- Adjacent open space allows for alternative waste management and stormwater treatment systems to be used and adds flexibility in design.

The development of a vibrant community of this sort would enhance the ongoing efforts being made to revitalise New Brighton, adding to the recreation and leisure strengths of the area. Developing the natural environment and providing opportunities for the wider community to participate in community garden and environmental education initiatives would benefit New Brighton.

## **Design**

The Working Party has developed a design for the Owles Terrace site to demonstrate how the concept can be realised. A copy of the design is attached. There is considerable flexibility inherent within the design to provide a range of housing units and to enable residents to retain a sense of individuality.

The key elements of the design are:

- Energy efficient building design, sustainable materials, self-build.
- Cluster housing with private and community spaces.
- On site stormwater and wastewater treatment, rainwater collection, greywater reuse.
- Sharing resources, community gardens, supportive community living, village culture.

It is envisaged that the residents would be able to choose the design elements incorporated in individual units and the wider village.

As discussed in the introduction of this report, identification of the contamination and land stability issues has forced the Working Party to halt its work on the Owles Terrace proposal. However, in the period until the site issues are clarified, the Working Party considers that there is still value in raising the Eco-village concept for consideration with a wider audience. There may be other sites in Christchurch suitable for such a development and design features could be implemented more generally.

### **DEVELOPMENT AND OWNERSHIP OPTIONS**

There are many options for how an Eco-village could be developed. The Council has responsibilities in regard to its housing and sustainability objectives, which an Eco-village concept could fulfil, particularly if partnership options were to be considered.

Potential partnership roles include:

- Developing and promoting a model Eco-village to encourage sustainability.
- Developing the project and on-selling at completion.
- Retaining a short-term financial share in the land as the Eco-village becomes established.
- Purchasing several units as low-income housing as part of the greater project.
- Providing professional advice and promotion.

It is important to note that any extra capital costs associated with construction of an Eco-village unit are likely to be outweighed by the savings resulting from the energy efficiencies over the longer term. "Green mortgages" have been developed overseas to recognise the different nature of ownership of an energy efficient home.

### **OPTIONS FOR ADVANCING PROPOSAL AND PRINCIPLES**

Following the release of the contamination and land stability analysis, expected later this year, the Working Party's proposal for Owles Terrace can be reassessed. If the Eco-village development is still feasible, the backing of the Environment Committee would be beneficial to further develop a robust proposal for testing against the "highest and best use" of the site.

Additionally, it is likely that there are several alternative sites in the City suitable for an Eco-village. The Property Unit could be asked to identify potential sites. As alternative sites may be outside the Burwood/Pegasus area, the Environment Committee may be able to take a leadership role in assessing the sites and the viability of possible developments.

Furthermore there is a continuum of sustainable development, ranging from aspects of house design to the full village concept. Many of the principles and technologies that are applied to Eco-villages could be applied to new developments across the City. Again, the Environment Committee is well placed to demonstrate leadership in the wider incorporation of environmental sustainability principles.

The Burwood/Pegasus Community Board has agreed to the recommendations contained in this report.

**Recommendation:**

1. That the Council through the Environment Committee investigate a proposal to pilot an Eco-village with sustainability principles in Christchurch.
2. That an Eco-village Subcommittee be formed comprising the Environment Committee Chairperson (Councillor Anna Crighton), Councillors Sally Buck, Carole Evans and Sue Wells plus the Chairman of the Burwood/Pegasus Community Board (Chrissie Williams) to progress the pilot project.
3. That the idea of an Eco-village design competition be investigated by officers and reported back to the committee.