

EXPERT STUDIES GUIDE SUSTAINABILITY FEATURES The 1999 SEFC Policy Statement contained a number of high-level sustainability principles to guide the neighbourhood’s development (see chapter one). To translate these ambitious principles into actions for SEFC, the City commissioned consultant reports in four key areas. Select action items from the reports were incorporated into the Official Development Plan for the neighbourhood. In addition, the studies themselves became key reference materials that informed the site’s design. The reports focused on the following overarching aspects of urban sustainability:

ENERGY WATER + WASTE MANAGEMENT URBAN AGRICULTURE TRANSPORTATION

Energy

The SEFC energy study looks at energy conservation and supply options, and reviews proposed energy-related performance targets. Of particular interest is its investigation of embodied energy. Embodied energy is the total energy that goes into the manufacture of a product, including energy used in growing, extracting, manufacturing and transporting it to the point of use. The study recommends using alternative materials with lower embodied energy in the construction of buildings, municipal infrastructure, parks and open space. Other recommended strategies include:

- Increasing the energy efficiency of buildings
- Increasing the use of local, efficient and renewable sources of energy
- Implementing enhanced energy management programs
- Establishing a micro-grid and pooled power back-up solution
- Reducing energy use for transportation

Water + Waste Management

WATER MANAGEMENT The water management plan explores potable water consumption, reuse of stormwater and greywater, sanitary sewage treatment and stormwater management. The report recommends implementing a monitoring system to evaluate the success of water conservation policies over time. Specific conservation strategies include:

- Installing efficient fixtures and appliances
- Using green roofs, permeable pavement and constructed wetlands
- Using rain barrels to store rainwater
- Reusing greywater for landscaping and toilet flushing
- Treating sewage on-site using solar aquatics or “living machines”

WASTE MANAGEMENT The waste management plan focuses on the four “Rs” of waste management: reduce, reuse, recycle and manage residual waste. Waste that is not diverted by the first three “Rs” is referred to as “residual waste.” Conventional waste management plans focus on how to manage residual waste, but in recent years increased attention on the other “Rs”

has helped to significantly reduce the proportion of residual waste. The plan recommends waste reduction and diversion strategies, including reusing, recycling and composting, for five levels of waste management:

- Construction and demolition
- Community waste infrastructure
- Multi-family residential buildings
- Industrial, commercial and institutional facilities
- Public parks and open spaces

Urban Agriculture

The SEFC urban agriculture strategy focuses on the role of food-related activity and urban agriculture in neighbourhood planning. This study defines urban agriculture broadly as a complete system, including on-site food production, processing and distribution. The proposed overarching objectives include:

- Increasing the physical capacity to support the growing of food
- Increasing the amount of on-site food production, privately and commercially
- Increasing food-related economic development initiatives
- Supporting local food security initiatives

- Increasing technical capacity, skills and knowledge of urban agricultural systems
- Encouraging the celebration of food and the local food system

Transportation

The SEFC transportation study identifies a range of transportation options to support the vision of SEFC as a model sustainable community. The overarching aim is to “balance” the transportation system by improving transportation choices and reducing the environmental, social and economic costs of an automobile-dependent transport system. A monitoring and evaluation program will measure the success of the sustainable transportation efforts. Specific recommendations include:

- Incorporating streetcar, ferries and improved bus service into site planning
- Designing safe, comfortable and convenient transit stops
- Creating pedestrian- and bicycle-friendly streets
- Promoting opportunities for car-sharing
- Implementing parking management and traffic-calming strategies