

UBC Social Ecological Economic Development Studies (SEEDS) Student Report

**South Campus Neighborhood: A Strategy for Food System Sustainability in UBC's  
University Town**

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# UBC Food System Project 2007 Scenario 8

## South Campus Neighborhood: A Strategy for Food System Sustainability in UBC's University Town

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AGSC 450



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## **Abstract**

Through this proposal, Group 22 aims to develop a strategy for food system sustainability by fostering a feasible plan to establish a community garden in the South Campus Neighbourhood. Community based action research was used to develop a well-rounded proposal for Nobel Park, creating a multi-generational and multi-use park for the South Campus Neighbourhood. This park space is designed to include a community garden that will allow for urban food production within the community. The garden plan includes strategies to enhance the ecological sustainability as well as the social well-being of the neighbourhood, while maintaining economic viability. Design and logistics for the community garden are outlined in detail. Proposed community initiatives for the garden and for Nobel Park itself are focused on. The purpose of these initiatives is to enhance food security and community cohesion through social and educational activities in the South Campus Neighbourhood.

## **Introduction**

Construction of the housing development in University of British Columbia's (UBC) South Campus Neighbourhood (SCN) commenced in 2006. The area will include approximately two thousand residential units for both university and non-university residents as well as commercial and recreational spaces, such as retail stores and parks (University of British Columbia [UBC], 2005b). Current UBC residents have demonstrated a keen interest in developing a community garden, which has been reflected during forums concerning development of neighbourhood recreational spaces (UBC, 2007). In the SCN there is a mandate for a portion of the Usable Neighbourhood Open Space (UNOS) to be used for community gardens (UBC Campus & Community Planning, 2007).

Our task, as part of the University of British Columbia Food System Project (UBCFSP), was to create a proposal for a community garden in South Campus; such that it is economically viable, ecologically sustainable, and socially enhancing. This report contains design and logistical plans for the South Campus Community Garden (SCCG). It demonstrates how to use the community garden as an educational and community building resource, and identifies research gaps and makes recommendations for future initiatives.

The specific goals for our project include:

- To create and design a long-term plan for a sustainable community garden in the SCN
- To develop the community garden to be a multi-use and multi-generational educational tool for the neighbourhood
- To promote community building and social interaction in the context of food system participation
- To develop a SCN initiative that is concurrent with UBC's Trek 2010 community outreach goal of modeling UBC as a "responsible, engaged, and sustainable community, dedicated to the principles of inclusivity and global citizenship" (UBC, 2005a)

## **Problem Statement**

Sustainable development is paramount at UBC, as is evident in the plans for development of the South Campus (UBC, 2005b). However, food system sustainability, which is an aspect of sustainable development, has not been addressed adequately in the plans for campus communities (Richer & Project Partners, 2007). Food security of campus residents needs to be addressed as a critical component of a sustainable community. This problem statement fits into the greater context of food insecurity that urban communities face due to being disconnected from the food system. Ecologically damaging food production and processing methods,

nutritionally and culturally inadequate food, and insufficient consumer consciousness are paramount issues in a food system where urban communities are distant from the rural communities that produce their food.

## **Vision Statement and Identification of Value Assumptions**

Our group envisions a SCN that will act as a model of a functional, secure and sustainable food system. The SCN should highlight food security components and issues in an effort to foster conscious food system stakeholders and consumers.

Our definition of food security encompasses the eight guiding principles outlined in the UBC Food System's Project (*Vision statement for a sustainable UBC food system: 2002-2005 academic version*, 2002). Specifically, a food secure system is a self-reliant system that supports natural diversity and utilizes local inputs and resources, whereby inputs and waste are also recycled or composted locally. It should ensure affordable, accessible, culturally, ethically and nutritionally appropriate food; thus, fostering awareness and enjoyment of the food system and of food itself. Ultimately, a food secure system should meet the demand of present needs without compromising the needs of the future. Our group agrees with the eight guiding principles of the UBCFSP. We also believe that each principle directly applies to our specific task within the greater UBCFSP.

Embedded in our vision is the value assumption that a community garden, as well as increased local food production, will enhance the food security of the SCN. Furthermore, we assume that enhancing learning opportunities regarding the food system will create awareness of and participation in food security issues amongst the community.

## **Methodology**

Our research, like that of the greater UBCFSP, was based on the principles of Community Based Action Research (CBAR). This method of research addresses and attempts to resolve specific problems in a dynamic and integrated manner within the community affected (Stringer, 1999). There are currently no residents in the SCN as the development is only in the initial stages of construction. Thus, we were unable to directly engage with the future residents of the SCN. However, we were able to collaborate with a number of key stakeholders in an iterative process of defining the community garden design.

Our research commenced with a literature review that allowed us to determine the scope and goals of our project. We began by reading projects from the Land, Food and Community III 2006 groups that relate to community gardens, and then further expanded our research to include UBC planning documents. We examined the UBC Official Community Plan (OCP), the UBC Comprehensive Community Plan (CCP), and the South Campus Neighbourhood Community Plan (SCNCP). We also reviewed the University Neighbourhood Association's (UNA) proposal for the installation of a community garden at the UBC farm. These documents gave us an excellent background for further investigations. Our investigations included attending community meetings regarding the development of the Usable Neighbourhood Open Spaces (UNOS) in the new South Campus Neighbourhood and contacting stakeholders in the project, namely Joe Stott and Heather Friesen. We conducted further research into the planning and building of community gardens by means of literature review and internet search.

## **Findings**

Our research led to us gain insight regarding the development of community gardens in the new SCN. The most important finding we discovered was that there was, in fact, a large

demand for community gardens within UBC communities. This was expressed to us through Joe Stott, Heather Friesen and the UNA. Community members would like UNOS to be multi-use and multi-generational. For those who would prefer not to have community gardens in their space, the community garden plan will be well-blended with the park space and well maintained (South Campus Neighbourhood usable Neighbourhood Open Space Design Brief Workshop 2, personal communication, February 6, 2007). Due to a strong interest for community gardens during the community consultation process there has been a mandate released for the University Neighbourhood Usable Space (UNOS) sites that includes required space for community gardens (UBC Campus & Community Planning, 2007). Based on size and location of parks, it was decided that the most appropriate parks space for a community garden is Nobel Park. The UNA plan to establish community gardens in the UBC farm was an excellent proposal; however, the farm is not the most appropriate space for a community garden since it does not fulfill the educational mandate of the farm (M. Bomford, personal communication, March 14, 2007). The high quality of the UNA proposal allowed us to amend it to fit into the context of the UBC SCN.

Community initiatives will be a part of the community garden proposal to enhance the multi-generational and multi-use aspects of the park. These initiatives may be enhanced by a future potential collaboration with the Landed Learning Program in the faculty of Education. The exploration of these findings will be discussed in the following sections with our proposed initiatives stemming from these major findings.

### ***Important Challenges***

We found that some of our findings led us in circles, particularly in the beginning of our investigation. For example, the reports from the AGSC 450 2005-2006 cohorts were deemed inapplicable to our task at hand and we realized that we could not build our proposal based on



the previous research. We also found it difficult to reckon with the politics surrounding the creation of a community garden, as was found in the rejection of the very thorough UNA community garden plan. Similarly, we received some negative responses to community garden development in the SCN from Campus and Community Planning and their consultants.

However, the Campus Planning community consultation meetings addressed the allocation of activities, including community gardens, in the UNOS. While responses varied, there was a vast majority favouring the establishment of community gardens in a UNOS. Only one community member opposed because it was thought that the compost would have a foul smell. This led us to regulate composting in our community garden proposal to avoid creating problems with neighbours. We found this meeting encouraging because residents of South Campus from Hampton Place and Acadia Park expressed interest towards a community garden. Joe Stott also suggested that we find a new location for the community gardens, to be creative, to understand the position of our opponents, and to provide detailed and justified guidelines for all possibilities.

In an effort to establish an academic connection to the proposed SCCG, we also attempted to establish volunteer activities in the community garden for the AGSC 100 class. This idea was rejected by the course instructor who stated that volunteers would only be provided for a community garden at the UBC Farm (A. Riseman, personal communication, March 19, 2007). While volunteer activities will still occur in the community garden, we had hoped that the AGSC 100 groups could be included in the UBCFSP from their first year in the Land and Food Systems faculty.

## **Community Garden Design and Function**

### ***Garden and Park Design***

#### ***Multi-use Functionality of Nobel Park***

Nobel Park will act as a community area where SCN residents can congregate and socialize in the garden and the additional proposed installations. A proposed park design may be found in Appendix A, Figure 1. Along with the community garden and water feature, the park will host a children's play area and a semi-covered picnic area. The children's play area will allow parents to make use of the community gardens without needing to find alternate care for their children while they are gardening. The lack of fences will allow for clear visual lines throughout the park giving both children and parents the freedom to enjoy their favourite aspects of the park. There will also be a semi-covered picnic area with picnic tables and barbeques. The park will allow residents to have a retreat within their own community. If our community garden is successful, then summer evenings in Nobel Park will be full of residents enjoying the fruits of their labour and each others company.

Moreover, aesthetics should be an important focus when designing and managing the SCCG in order to maintain a positive public perception of the garden. The garden area will blend with the park by incorporating benches amongst flower beds planted with visually pleasing perennials. The garden beds will vary in size with a combination of perennials that will allow for year round interest. A water feature near the community garden will be supplied with water from storm drainage coming from the SCN. Along with this water feature being an aesthetic aspect of the park, it will also act as part of the irrigation system for the SCCG.

### *Community Garden Layout*

The community garden will be separated from the rest of the park by fruit trees and other edible landscaping initiatives (see Figure 1 in Appendix A). The garden will contain 80 plots along with a tool shed and composting system. Most of the gardens plots will be raised using 1 foot wide reclaimed timber and separated by flagstone or gravel pathways. A select number of plots, which has yet to be determined, will be raised by two and a half feet for gardeners who have special accessibility needs. The plots will be rectangular and uniform in size throughout the entire community garden. Please refer to Figure 2 in Appendix A for a proposed blueprint of the plots within the garden including dimensions of plots and pathways.

### *Compost Design*

The garden will contain two composting systems to allow a complete nutrient cycle within the garden. The composting system will consist of three cedar slated bins with one set of bins at each end of the garden. Each cedar bin will be constructed using two by six inch cedar planks leaving a one inch gap between each plank to allow for oxygenation (Peterson, 1998). The inside of each bin will be lined with one inch square chicken wire that will keep the bins free of rodents and the front will be removable for easy compost management. They will also be covered with a cedar lid for protection against wildlife (Aaron's Home and Garden, 2006).

### *Tool Shed Design*

The tool shed within the garden will be a cedar building designed to be used by the gardeners for storage. It will be constructed of cedar siding with a cedar shingled roof to create uniformity throughout the community garden. Inside, there will be shelves and pegs for storage of gardening equipment. It will also act as a diversion for rain water with collection barrels along the outer back wall to gather rainwater off the roof. The third important feature is that it

will have solar panels on the roof to will collect solar energy that will be stored and used for lighting the garden in the evening (World Energy Council, 2001).

## **Logistics of the Community Garden**

### *Organization of committee members and their roles*

The UNA Sustainability Committee's community garden proposal for the UBC farm (UNA Sustainability Committee [UNASC], 2006) was an essential reference source to determine the appropriate structure of garden administration and logistics. The document was an excellent example of committee organization, division of responsibility, timeline and budget characteristics, plot allocation, and plot holder's agreement. We used a great deal of this information together with similar inputs from the Acadia Park Garden Community Garden Manual (Acadia Park Garden, 2006), a community garden start-up guide (Surls, 2001), and our own creativity, to establish our design of community garden administration and logistics.

Leadership and enthusiasm from SCCG plot-holders will be a key component of establishing and maintaining a smoothly functioning and cooperative community garden. The SCCG will be administered through a garden committee composed of at least one member of the University Neighbourhood Association Sustainability Committee (UNASC) and at least six other committed and knowledgeable SCCG plot-holders. Their roles will include, but not be limited to, Garden Coordinator, Treasurer, Community Coordinator, Education Coordinator, Section Coordinator, Compost Coordinator, and Tool-shed Coordinator. These positions will be filled through annual elections at the annual general meeting (AGM), at which attendance or representation will be mandatory for all plot holders. With the aid of other plot-holders they will handle SCCG administration, from tool maintenance to community outreach. Coordinators will receive their plot free of charge.

The Garden Coordinator will process plot-holder applications, one per household, which will include a liability waiver (see Sheet 1 in Appendix B for sample application and waiver forms). They will also organize the yearly AGM and the bi-yearly work parties. Plot-holder attendance or representation at work parties, preferably held for spring preparation and fall clean-up, will be mandatory unless another agreement is reached with the Garden Coordinator. Work parties are important for efficiently maintaining the garden and for creating community cohesion. A key responsibility of the Garden Coordinator, in conjunction with the Area, Compost, Toolshed, Community, and Education Coordinator, will be to ensure that gardens are managed in an agroecological manner (see Sheet 2 in Appendix B for sample plot-holders Agreement point 8).

The Treasurer will be in charge of the SCCG bank account, handling receipts, preparing an annual budget, and administering petty cash for materials. Any large purchases (greater than \$75.00) will be decided on by consensus before the entire SCCG committee. The Treasurer will also fundraise for the SCCG and source needed materials and expertise from local companies, organizations, and individuals.

The Community Coordinator will be responsible for liaising with other plot-holders and the general public. They will solicit, compile, print, and distribute a bi-yearly newsletter; establish an events sub-committee to implement monthly community dinners and harvest festivals, and establish a Greenway Sub-committee to manage the food production activities in the greenways. Other duties include organizing post work parties, the AGM, and maintaining a bulletin board of relevant SCCG information. The Community Coordinator will also be responsible for compiling and disseminating a yearly SCCG manual that will outline regulations, gardening tips, and points of interest to plot-holders.

The duties of the Education Coordinator will be to provide gardening informational resources, organize workshops and school tours, and assist section coordinators in ensuring and promoting agro-ecological gardening. Responsible irrigation, pest management, non-timber forest products and composting are examples of educational workshop themes. Further functions of the Education Coordinator will be defined when there is more activity in the garden.

The Section Coordinator will ensure that plots are being properly managed and he or she will act as a resource, along with the education coordinator, for plot-holders. He or she will also assure that each section of the garden has a representative. Representatives will be will be responsible for overseeing that all members are adhering to the Plot-Holders' Agreement (see Sheet 2, Appendix B for sample agreement). The Section Coordinator will be responsible not only for identifying problem situations, but also for educating, along with the Education Coordinator, about the necessary changes to be implemented.

The Compost Coordinator will communicate with UBC waste management and coordinate compost duties, such as weekly turning. The Tool-shed Coordinator will be responsible for the proper supply and maintenance of garden tools and equipment. He or she will also manage any building projects, maintain a clean and organized tool-shed, and provide replacement keys for \$15.00 to plot-holders when necessary.

It will be important that individuals who are available and committed to achieve their associated purposes fill these roles. Time constraints may lead to the conception of sub-committees who will handle the tasks of the coordinators. Nevertheless, direction and organisation, whether individual or communal, will be essential for the proper functioning of the garden.

## ***Ecological Sustainability***

The SCCG should be designed to maximize use of local resources and reduce reliance on inputs. Energy and water conservation, nutrient cycling and integrated pest management are strategies to augment the ecological and economic sustainability of the community garden. The following section suggests sustainability initiatives to be employed in the SCCG.

### ***Nutrient Cycling***

Nutrient cycling, where garden waste is returned to the soil to maximize soil fertility, should be an integral aspect of the SCCG. By composting garden clippings and amending the soil with the finished compost, residents will reduce the need for chemical inputs to maintain soil quality. It is important to have composting on site to minimize waste and allow for a continuous flow of nutrients.

The Compost Coordinator will be in charge of overseeing that the compost bins are functioning adequately by monitoring aeration, moisture level and temperature of the composting bins. Since the compost bins will have openings between each wooden slate, the bins will be well ventilated which helps minimize odours generated from the decomposition of biological material as well as maintaining the moisture at a desired level. Compost should be turned regularly to increase aeration (Urban Garden Center, 2006). The Urban Garden Center (2006) recommends the following:

*Moisture above 70%: turn daily to reduce moisture*  
*Moisture 60%-70%: turn every other day, four or five times*  
*Moisture 40%-60%: turn every three days, three or four times*  
*Moisture below 40%: add water to speed up the decay process*

Moreover, the compost coordinator should check the temperature of the pile. If it is colder or is equivalent to the outside temperature, then more nitrogen-containing inputs should be added (Compost Guide, 2004).

It is also important to compost the correct material to maintain a clean, odourless and pest-free area. Products from the plots, such as leaves, stems, weeds, flowers and discarded produce can be composted. Materials that cannot be composted in the community garden include kitchen waste and inorganic substances (Composting Council of Canada, n.d.). To maintain order and cleanliness in the community garden area, each plot holder should compost immediately after he or she finishes gardening. These guidelines should be posted in both composting areas to continuously remind plot holders of adequate composting methods.

#### *Water Conservation*

The SCCG members should practice water conservation methods to reduce the impact of the garden on its surrounding ecosystem. Storm water will be used for hose watering and rainwater will be used for hand-watering. Rainwater will be collected on the shed roof by way of gutters that drain into four rain water barrels, on each corner of the shed. A wire filter will be installed in the top of the rectangular pipe to avoid clogging. The barrels must be covered to avoid mosquito attraction and will have a simple manual pumping system for easy watering can fill-up.

A water feature, which is part of the Sustainable Drainage Strategy for the South Campus Neighbourhood plan, is to be located in Nobel Park (Aplin Martin Consultants Ltd, 2005). The storm water will be filtered in the drainage canals using plants with biofiltration properties (Booth, Ewing, & Mazer, 2001), such as vegetative swale, and then could re-circulated into an irrigation system for the park and community garden.

If an irrigation system is necessary, it will require a backflow prevention device, a control valve, a filter, a pressure regulator, a Y-connector, 2-1/2 inch polyethylene mainlines, and several hoses (Wilson & Bauer, 2006). The mainline will need to be pegged down and



strategically placed or dug into the soil to avoid tripping (Wilson & Bauer, 2006). Shutoff valves will be available every two rows of plots so that hoses can be easily transferred and handled. A municipal water source will be necessary for consistent provision of drinking water, by way of an attachable fountain spout, and as a precautionary irrigation measure. The municipal source will only be used for irrigation when the other two sources are insufficient to meet the needs of the garden.

Several aspects of the irrigation will need to be maintained and regulated by the SCCG members as directed by the Area Coordinator. These include the winter storing of the equipment and the flushing of the hoses in the spring. The rainwater barrels and the shed gutters will be cleaned once a month.

#### *Energy Conservation*

The proposed community garden is facing south to maximize the amount of sunlight that it receives. The garden should be lit after sundown in order to ensure safety, reduce theft and vandalism of the community garden. The tool shed structure will be equipped with solar panels that will augment the use of hydro electricity needed to light the garden at night.

#### *Integrated Pest Management*

By maintaining a diverse list of plant species within the garden, appropriate insect habitat will help to maintain beneficial insect populations to control pests. Furthermore, planting flowers at the ends of each of bed will help to attract beneficial insects as well as pollinators to the community gardens. Use of integrated pest management techniques will help to reduce the need for chemical pesticide use in the SCCG.

### *Potential Avenues for Enhanced Food Production on South Campus*

In order to expand the amount of locally produced food available to SCN residents, options for local food production should be explored in addition to the SCCG. The Greenways and Green Streets are in integral part of the SCN plans that will provide a non-vehicular circulation system (UBC, 2005b), where pedestrian and cyclist transportation is supported. They also will provide an area for storm water management, wildlife habitat, biodiversity preservation, and recreation potentials. See Figure 3 in Appendix A for a map of proposed green streets and greenways in the South Campus development.

The South Campus Greenways and Green streets may be used as community food production outlets in addition to the proposed community garden plots. Landscaping could include fruit and nut trees to be accessed by the community as well as ground covering herb plants. The fruit and nut trees will benefit wildlife habitat and energy conservation by providing shade in the summer and maximizing light in the winter months. In order to ensure community interest and the success of edible landscaping in the South Campus development, a community committee could be established to oversee the harvest and sharing of crops.

As a traffic calming mechanism, the South Campus development plans to include traffic circles at intersections of local streets and collector roads (UBC, 2005b). Similar to the City of Vancouver “Green Streets Program” (City of Vancouver, 2007c), the South Campus community could plant food and aesthetic crops in traffic circles. The traffic circles could be “sponsored” by individuals or groups within the community. The City of Vancouver provides a set of guidelines for the sponsor; however, the sponsor would be responsible for the planting, maintenance and harvest of the crops within the traffic circle. The City of Vancouver has experienced that the Green Streets program “offers Vancouver's residents the opportunity to discover a greater sense

of neighbourhood pride and ownership.” (City of Vancouver, 2007b) Figure 4 in appendix A is an example of a Vancouver Green Streets Program traffic circle.

The promotion of individual patio planter box and window planter box gardens is also a potential means of enhancing food production in the SCN. Residents can easily produce herbs, tomatoes, lettuce and other vegetables in relatively small planter boxes. Residents can learn about how to create a successful planter box garden through workshops provided by the SCCG Garden Committee. At these workshops, residents could purchase patio or window planter boxes, soil, seeds and basic garden tools in order to set up their individual planter box gardens.

The final potential avenue for food production in the SCN includes harvest of non-timber forest products (NTFPs) from the “Green Edges” and “Residential Land Allocated to Tree Preservation and Management” (see Figure 3 in Appendix A). The forest areas that surround UBC are rich in edible species. Examples of some of the NTFPs that the forest boasts include oregon grape (*Mahonia aquifolium*), red huckleberry (*Vaccinium parvifolium*), and the pacific golden chanterelle (*Cantharellus formosus*). South Campus residents could be introduced to sustainable harvest of NTFPs in a workshop format administered by UBC agroforestry students. By finding value in forest reserve lands, residents will be more likely to help maintain a healthy ecosystem in the areas surrounding the SCN.

### ***Budget Information***

The SCCG annual revenue of \$2,800.00 will come from a membership fee of \$35.00 per garden plot. All tools and equipment provided in the tool shed will be used to minimize the costs and maximize economic efficiency. The budget anticipates expenditures in the first year of the following:

- \$156.00 for used tools and equipment including hand tools like shovels, spades, rakes, weeding hoes, as well as wheelbarrows, garden hoses, watering nozzles and a compost fork;
- \$700.00 for administration processes such as printing costs for forms, manuals, notices, meeting materials and the expense to include information boards and educational signage in the garden;
- \$12,285.92 for set up and maintenance of the garden including a tool shed attached with four rain water barrels, two compost bins lined with chicken wire on each end of the garden, and wood needed to raise 80 garden plots.

During the first year, total expense is estimated to be \$13,141.92. From the following year and onwards, annual revenue will remain the same, while expenses will decrease to cover only the replacement of tools, equipment, rain water barrels, and the cost for annual administration fees. Educational costs and resources for workshops will be covered by the remaining revenue in the second year and onwards. A detailed budget may be found in Appendix B, Chart 1.

## **Social Enhancement**

Educational opportunities will be incorporated into the SCCG to foster the involvement of the community. The goal of these opportunities is to promote multi-use activities and sustained multi-generational involvement. The SCCG intends to:

- Hold events for residents in the garden
- Enhance social ties within the community and between residents
- Increase awareness and knowledge of food system aspects (nutrition, sustainability etc.)

Some of the ideas proposed for multi-use of the garden are to host events, activities and workshops for the community of the south campus. We have included a variety of ideas hoping to address the multi-cultural and multi-ethnic community of SCN. The ideas are as follows:

### ***Community Dinners***

While using the garden plots to grow various crops, we propose these crops be included as ingredients for monthly community dinners. They will begin during the harvesting season in order to make use of the seasonal crops. Each dinner will include a food theme for each month, where a specific crop that is grown at that time of the year would be the main ingredient of the dish. They will be held in the community centre planned for the SCN (or if desired, hosted at a resident's home). The use of the garden plots in association with food-themed Community Dinners will create an incentive to garden and will also strengthen social connections within the community.

### ***Community Festival***

An annual Community Festival will take place during the harvesting season. It will consist of a BBQ, food, music, activities for children and information booths. The BBQ will likely be held in the community BBQ area of Nobel Park. A wide variety of food will be provided and rationed with food vouchers. The food vouchers will be free of charge, but limited per person.

It would be appealing to have live musical events during the festival and possibly have residents with musical talent perform. Activities for children will be organized and will include arts, crafts, and games to associate the themes of ecology and food. This would provide an educational element for the children and give them an opportunity to be involved with the

garden. Lastly, some informational booths will be set-up by the SCCG Committee's Education Coordinator to provide basic facts on nutrition, gardening and food production.

### ***Workshops***

Ongoing learning of aspects pertaining to the SCCG will be available through monthly workshops. Members of the SCCG and the south campus community will be given the opportunity to attend workshops on topics that might include "How to Garden" (tips and techniques on how to garden efficiently), "Nutrition" (relating to food theme crop of the month), Composting (tips and facts), and "Basic Food System Knowledge" (different topic, such as "sustainability", every month).

### ***Community Bulletin Board***

Another important aspect for spreading knowledge and maintaining connections within the SCCG is through the use of a community bulletin board and newsletters. An appropriate location for the bulletin board is directly outside the entrance of the tool shed in an encased board. The board will be a place for announcements and monthly newsletters to be posted. Rules and regulations on the use of certain utilities within the garden for optimal maintenance of the garden can also be posted such as composting, tools and plots.

### ***Children and Youth Engagement***

The SCCG can provide learning opportunities to elementary school students in the SCN and UBC students in the future. A school program and a volunteer program can be organized once the SCCG is established.

Since an elementary school will be located within the SCN (UBC, 2005b), children can learn about gardening through joining a school program with the SCCG, similar to that of UBC Farm's Landed Learning Project (*About us*, 2007). In the school program, a tour of the SCCG

along with different workshop themes such as “How to Garden” and “How to Compost” will be provided. Workshops will give the children a hands-on experience in the garden. In order to have tour guides and speakers for the children, a volunteer program should be organized. Moreover, the volunteer program will provide an opportunity for UBC students and the residents to gain gardening knowledge and leadership skills. Volunteers will be trained to guide tours and to show people how to organize their own gardens. Furthermore, they can help with the regular maintenance of the SCCG. The Education and Community Coordinators of the SCCG Committee will organize these programs. Two excellent resources for the planning of such programs are Stacy Friedman, a UBC Farm Education Coordinator and Program Head of the UBC Farm’s Landed Learning Project, Professor Jolie Mayer-Smith.(S. Friedman, personal communication, March 20, 2007).

We believe that these efforts will provide the community with ongoing knowledge of topics related to the SCCG and bring about social connections within the growing community. The school program and the volunteer program will be organized by sub-committees created by the Community and/or Education Coordinators and/or Heather Friesen, Head Chair of the UNA’s Sustainability Committee (H. Friesen, personal communication, March 19, 2007).

## **Recommendations**

Certain aspects of community garden planning were not covered within the scope of our project. Our recommendations stem from opportunities that were not addressed due to time and resource constraints. We recommend to the UNASC and/or Campus and Community Planning:

- To use the garden design proposal, presented in this paper, as a trial community garden in the SCN. The garden should be implemented, either by park developers or by the UNA,

in the initial construction of Nobel Park. If the community garden is successful, consider the option of expanding the garden according to demand.

- To consider, if the demand for community garden space is excessive, the re-proposal of having community garden plots for residents at the UBC Farm.
- To maintain ties between the SCCG and the Faculty of Land and Food Systems in order to facilitate an exchange of knowledge between residents and students.

We recommend to the 2008 UBCFSP students:

- To expand upon food system educational opportunities for residents offered by the community garden. This will help ensure that the garden remains multi-use and non-exclusive.
  - Resources could include: local farmers, agriculture/agroecology students and the UBC Farm.
- To propose possible details of the school and volunteer programs for the SCCG and they could contact with the coordinators of UBC Farm and the program head, Professor Jolie Mayer-Smith for information.

## **Conclusion**

Through the establishment of a community garden in the SCN, we hope to comply with UBC's vision of a sustainable future. UBC has been actively promoting the importance of leading a sustainable future, thus this ideology should be reflected within UBC's new development projects. As students of the Faculty of Land and Food Systems, we want to contribute to this by enhancing food security through the establishment of a community garden in the SCN. A community garden in the SCN proves to be a feasible option because it reconnects people to the land, highlighting the importance of food production. In this



community garden, residents will not only learn to cultivate, but they will also create a community where they can find support and resources.

By using Community Based Action Research, our group has generated a holistic understanding of the project, thereby fostering a realistic approach to the design. Therefore, we designed a plan that creates a multi-use and multi-generational garden that allows for future adaptations. The implementation and success of this community garden plan could greatly benefit the SCN by enhancing food security and community cohesion through social and educational activities.

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# Appendix A

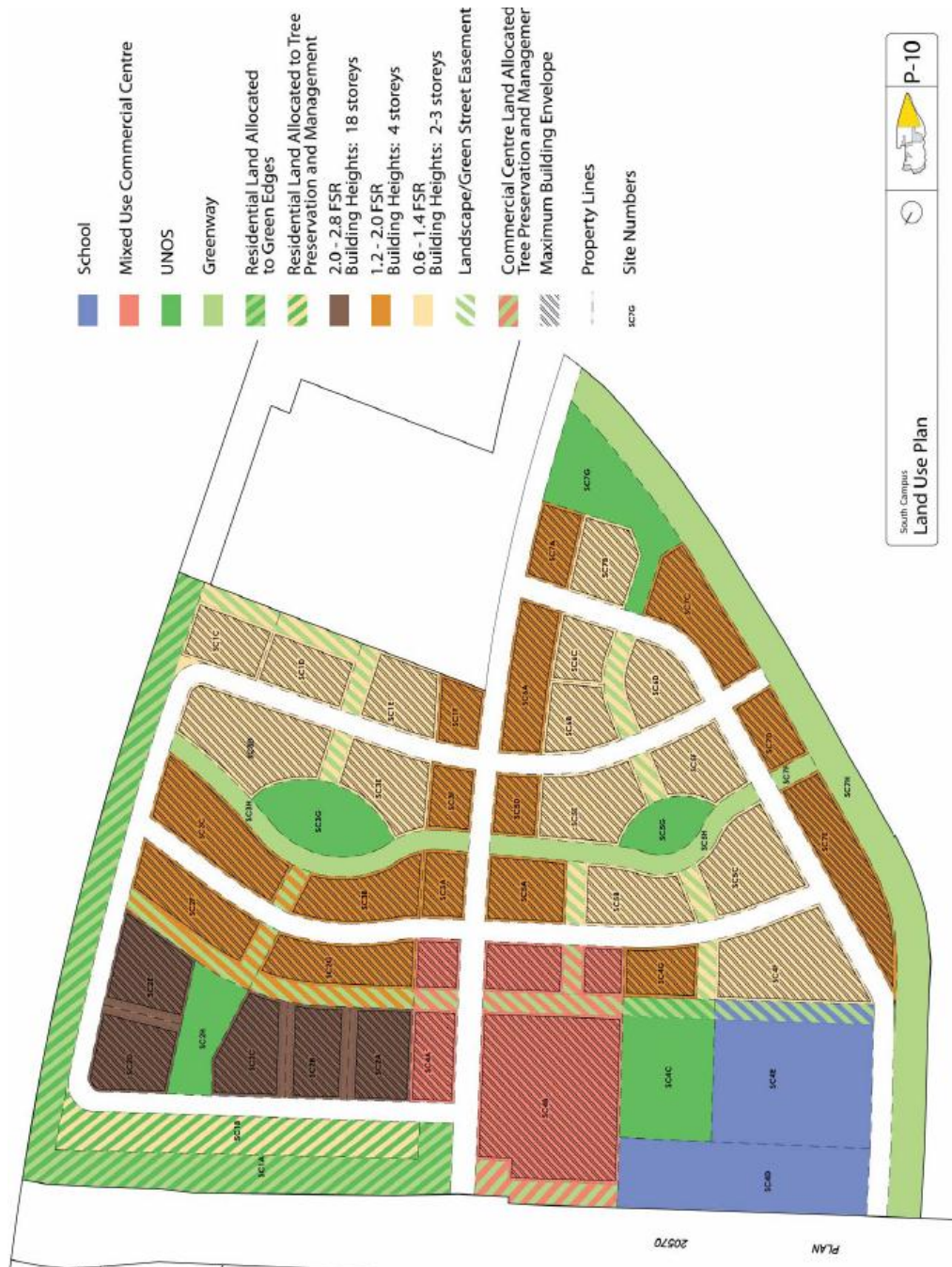


Figure 1: Nobel Park Design





**Figure 2: Community Garden Design**



**Figure 3: Proposed South Campus land use plan.** Note the amount of green space that may be used as a means of food production. (UBC, 2005b)





**Figure 4: Vancouver’s Green Streets Program – 10<sup>th</sup> and Pine (City of Vancouver, 2007a).**

## **Appendix B**

### **Sheet 1: Draft Application Form with Liability Waiver Form (Adapted from UNASC 2006)**

#### **UNA South Campus Community Garden Application**

Dear Gardener:

To apply for a garden plot for next year (a plot measures 2 m x 1 m), please complete and return this application form with a cheque in the amount of **\$35 BEFORE December 31** of this year to: UNA SCCG Committee, c/o UNA Office, Barn Community Centre, Vancouver BC.

Please make your cheque payable to “the UNA South Campus Community Gardens Committee”. Plot assignments are mailed out in mid March. Gardeners age 65 or older and gardeners with physical limitations will be assigned plots closer to the water source when possible. Returning gardeners may retain their site from the previous year if their application is received by the Dec 31 deadline. Other applications are processed on a first-come first serve basis. If you are not assigned a plot, your cheque will be returned and your name placed on a waiting list should a plot become available during the year. Once a plot has been assigned and paid for, no portion of the cost is refundable.

Before completing the application, please read the SCCG Manual thoroughly. If you have any questions about your responsibility as a garden plot holder, please contact someone on the SCCG Committee. Your signature at the bottom of this page means you agree to the stated conditions and to follow the Community Gardens Guidelines. Your application form must be signed and dated before it will be processed. You must also sign and date the Liability Waiver Form on the other side of this application form.

Name (please print) \_\_\_\_\_

Address \_\_\_\_\_

Phone (Day) \_\_\_\_\_ (Evening) \_\_\_\_\_

Email: \_\_\_\_\_

Please check all that apply:

- I have never gardened before
- I had a garden plot last year and would like the same one again this year
- I would like a garden plot near my friend Friend's name \_\_\_\_\_
- I am 65 years old or older
- I have physical limitations
- I have a young child (5 years old or younger) that I may bring with me to the garden

**Commitment:**

I have read and understand the South Campus Community Gardens Manual and agree to the terms of the South Campus Community Gardens Plotholder Agreement. I have also read and understand the contents of the Liability Waiver Form on the reverse side of this application and signed it.

Gardener: \_\_\_\_\_ (Signature) Date: \_\_\_\_\_  
\_\_\_\_\_ (Print Name)

**Community Gardens Committee authorization:** to be completed by Gardens Committee member

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**South Campus Community Gardens in University Neighbourhood Open Space  
Liability Waiver Form**

I, \_\_\_\_\_ [name] of \_\_\_\_\_ [address] desire to have a garden plot in the South Campus Community Gardens located at UBC Farm.

I acknowledge that gardening may entail some risk of injury to one's person or property.

In exchange for the opportunity to garden on land at the x park, I hereby assume all risk of injury to myself or my property as well as injury to my family, my guests or my agents I allow to work in or invite to my garden plot.

On behalf of myself as well as my heirs, administrators, executors, and assigns, I hereby release and forever discharge UBC and the UNA as well as their trustees, officers, agents and employees, from any and all claims, demands and causes of action, of whatever kind or nature, either in law or in equity, arising from, or in any way connected with my having a UNA garden plot at UBC Farm. In addition, I agree to indemnify and hold the above-named entities and individuals harmless from any loss, liability, damage or cost which they may incur as a direct or indirect result of my having a garden plot.



I expressly agree that this Liability Waiver Form is intended to be as broad and inclusive as permitted by the laws of British Columbia and that if any portion herein is held to be invalid or unenforceable, the balance shall continue in full legal force and effect.

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Signature

Date

## **Sheet 2: Sample Plot-holder Agreement** (adapted from UNASC 2006)

### **UNA South Campus Community Garden Plot-holder Agreement**

The purpose of this agreement is to help the South Campus Community Garden (SCCG) run smoothly for all plot holders and their families. Any plot holder who continues to break the terms of this agreement, after receiving written notice, will lose their plot which will be reassigned without refund. The Community Garden Committee is the final authority in these matters.

1. The Garden is for recreational gardening to grow produce and/or flowers for family use only. No produce or flowers from the garden may be sold, except for SCCG fundraising purposes at the Harvest Festival. Growing of marijuana or any other illegal substance is prohibited.
2. Except as provided for under article 3. below, there is a limit of one plot per residential address. The occupant of the address must sign the application form. Application must be made each year, before December 31. Returning SCCG plot holders may retain their assigned plot from the previous year if their application is received by the Dec 31 deadline. Other applications are processed on a first-come first serve basis. If you are not assigned a plot, your cheque will be returned and your name placed on a waiting list should a plot become available during the year. Once a plot has been assigned and paid for, no portion of the cost is refundable.
3. Plot holders are responsible for cultivating, weeding, fertilizing, watering, and other care of their assigned plot. Plot holders must cultivate their plots to prevent the weeds from taking over. Weeds provide a home for harmful insects and pests which can infect their own and neighbouring gardens. Plots that are not fully utilized or are a source of weed or pest problems will be reassigned at the discretion of the Committee and no refund given. Plot holders who plan to go away during the prime growing season for 2 weeks or longer should arrange for someone to look after their plot. Garden plots will be inspected in May and July to ensure compliance with this agreement.
4. Plot holders are responsible for maintaining their plots in an orderly condition at all times. At the end of the summer growing season gardeners must clear their plots of dead vegetation, and also of stakes, cages, and other encumbrances not required for the fall/winter/spring growing season. Plot holders are required to clear their plot completely before giving it up (i.e. not renewing their application for the same plot). If the plot is not completely cleared, the plot holder will be assessed any cost associated with restoring the plot to an acceptable condition.
5. The paths around the plots are also the responsibility of the plot holder and must be kept free of weeds and debris. No structures are allowed alongside neighbouring plots. Structures like trellises, cages, inside a plot

must not be higher than 6 feet and must be positioned in a place that does not shade neighbouring plots. If there is a complaint about a structure, the Section Coordinator will decide what if any action is required.

6. Watering is the responsibility of each plot holder. Care should be taken to use the water system correctly and conservatively. Do not leave the water running unattended. During periods of dry weather, it may be necessary to observe watering schedules set by the SCCG Committee. During the hot weather, watering is most effective before 10 am and after 6 pm.
7. Each plot holder is expected to participate in the two work parties (spring and fall) which are four (4) hours each. If the plot holder or adult family member is unable to attend they must either arrange for someone else to participate on their behalf or arrange with their Section Representative to make up the time doing other volunteer work for the garden. A plot holder that fails to fulfill their minimum eight hours of volunteer labour will not be permitted to renew their plot for the following year. Returning plot holders may be asked to be Section Representatives.
8. All plot holders or an adult member of their family is expected to attend both the spring meeting and the fall meeting. Plot holders have one vote at the meeting (must vote in person). Decisions will be decided by majority vote. Plot holders who are not able to attend the meeting must advise their Section Representative in advance. Plot holders who are new to gardening are expected to attend the spring workshop providing an introduction to gardening. Plot holders are required to keep themselves informed of news relating to the Garden by checking the Notice Board at the garden or on the UNA website regularly.
9. Plot holders are asked to discuss their questions, concerns or problems about their plot in particular or the Garden in general with their Section Representative.
10. For the enjoyment of everyone, dogs, cats and other domestic animals are not allowed at the Garden. Children and visitors are welcome at the Garden but must be accompanied by the plot holder or adult family member who will take full responsibility for the children and guests and ensure they respect the rules of the Garden.
11. Plot holders must use hand equipment only – no motorized equipment is permitted. Plot holders will receive a key to the tool shed. The tools are for use at the Garden only and may not be taken home. Plot holders are expected to treat the tools and equipment with the same care as they would their own things and report any damage to their Section Representative who will report to the section coordinator.
12. There is no smoking in the Garden.
13. Open containers of water are not permitted. These are perfect breeding grounds for mosquitoes that may carry and spread viruses that are dangerous to humans.
14. The Garden will be open from 8am to ½ hour after sunset seven days of the week.
15. Plot holders are welcome to bring food and non-alcoholic drinks into the garden for picnics but must take ALL they brought in back home with them. The compost containers at the Garden are for garden waste only – please do not add your organics from home to the bins as this may attract unwanted animals and rodents.
16. Composting must only occur in specified compost containers unless a worm bin compost is approved by the Section Coordinator.

**Chart 1: South Campus Community Garden - Year 1 Budget Plan (including initial start up costs)**

<u>Revenue</u>	<u>\$/Units</u>	<u>Unit</u>	<u>\$</u>	<u>Remarks</u>
Membership Fee per plot	35	80	2800	
<b>Total Revenue</b>			<b>2800</b>	
<b><u>Expense</u></b>				
<b><i>Tools and Equipment - All Used</i></b>				
Shovels	5	2	10	BuySell.com BC (604.853.3540)
Spades	5	2	10	"
Rakes	5	2	10	"
Weeding Hoes	8	2	16	BuySell.com BC (778.773.4208)
Wheelbarrows	20	2	40	"
Garden Hoses	15	2	30	BuySell.com BC (604.861.2344)
Watering Nozzles	5	2	10	BuySell.com BC (604.842.6639)
Compost Fork	30	1	30	Ace Hardware Superstore (1.888.230.2323)
<b><i>Administration and Other</i></b>				
Printing Costs (forms, manual, notices, meeting materials)			200	
Information Boards and Other Signage			500	
<b><i>Operation and Maintenance</i></b>				
Tool Shed (quantity = 1)	11.24	61	685.64	\$11.24/(1"x8"x14' Cedar Wood) need 61pcs of 1"x8"x14' from Build Direct ( <a href="http://www.builddirect.com/Cedar-Siding.aspx">http://www.builddirect.com/Cedar-Siding.aspx</a> )
Rain Water Barrel (60 gallon)	100	4	400	( <a href="http://www.rainbarrelsandmore.com/">http://www.rainbarrelsandmore.com/</a> )
Compost Bins (quantity = 2)	8.04	40	321.6	\$8.04/(1"x8"x10' Cedar Wood) need 20pcs/1 compost bin from Build Direct ( <a href="http://www.builddirect.com/Cedar-Siding.aspx">http://www.builddirect.com/Cedar-Siding.aspx</a> )
Chicken Wire (for compost bins)	6.99	2	13.98	\$6.99/(1"x12"x50' or 7200sq in. poultry netting) need 12,545.28sq in. from Aubuchon Hardware ( <a href="http://lawn-and-garden.hardwarestore.com/39-470-poultry-netting.aspx">http://lawn-and-garden.hardwarestore.com/39-470-poultry-netting.aspx</a> )
Reclaimed Wood for Regular Garden Plots (quantity = 78)	5.5	1856.4	10210.2	\$5.50/sq ft. Reclaimed Wood from TerraMai 23.8sq ft. per plot x 78 plots = 1856.4sq ft. ( <a href="http://www.terramai.com/index.html">http://www.terramai.com/index.html</a> )

Reclaimed Wood for Special Garden Plots (quantity = 2)	5.5	119	654.5	\$5.50/sq ft. Reclaimed Wood from TerraMai 59.5sq ft. per plot x 2 plots = 119sq ft. ( <a href="http://www.terramai.com/index.html">http://www.terramai.com/index.html</a> )
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**Total Expenses (including initial start up costs)      13141.92**

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**Chart 2: South Campus Community Garden - Projected Year 2 and Onwards Budget Plan**

	<u>Revenue</u>	<u>\$/Units</u>	<u>Unit</u>	<u>\$</u>
Membership Fee per plot		35	80	2800
<b>Total Revenue</b>				<b>2800</b>
 <u>Expense</u>				
<b>Tools and Equipment - All Used</b>				
Tool Replacement				200
<b>Administration and Other</b>				
Printing Costs (forms, manual, notices, meeting materials)				200
<b>Operation and Maintenance</b>				
Rain Water Barrel Replacement (60 gallon)		100	1	100
<b>Total Expenses</b>				<b>500</b>

**Chart 3: Proposed South Campus Community Garden timeline**

Date	Event	Information
April 2007	Complete SCCG Proposal	
January 2007	Projected Completion of Nobel Park	
	UNA's First General Garden Meeting	Open to all South Campus Residents interested in holding a plot
		Information session about SCCG
		Distribute Applications for plots
February 2009	Construct garden beds and infrastructure	Include tool shed, irrigation and composting system
March 2009	Finalise and complete garden infrastructure	
April 2009	First Annual General Meeting	Elect Community Coordinators
June 2009	Distribute plots to owners	Workshop about basic gardening