

78th Street Site Technical Advisory Committee Executive Report



“We are surrounded by insurmountable opportunities.”

-Bill Mollison

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Prepared by Abundance Consulting

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1.0 Intent

“Caring for the Land and Serving People”

The intent of the Technical Advisory Committee is to inform site planning such that Clark County’s heritage at the Site is maintained by establishing a community-based farm which cares for the Land and serves the People of Clark County. Through the use of sustainable agriculture practices, green building practices and open space preservation, the Site programs and infrastructure will offer support and education to the people of Clark County while building a legacy of increased productivity for generations to come.

2.0 Introduction

The Technical Advisory Committee (TAC) for the 78th Street Site was composed of about 25 people. A full list of members can be found in Appendix E. The TAC spent 48 hours in seminar exploring sustainable and regenerative ecological design as taught through the lens of Permaculture Systems Design Theory. The TAC next attended 24 hours of design charrette over 3 days, drafting its Technical Advisory Report. This seminar was a presentation and discussion forum on best current ecological design practices and, where applicable, the policy associated with those practices. The charrette began by reviewing the January 2008 "Garden Park Concept" drafted by Mark McCauley, Director of Clark County General Services.

The TAC also reviewed a wide variety of observations and reports made by independent and commissioned studies. These county, regional and state studies provided considered recommendations. Needs were identified in arenas as diverse as public health, farm lands preservation, rural character, education, food systems, nutrition, ecology, environment, and civil security. These county and regional issues can all be positively affected by adopting sustainable and regenerative land use practices.

The Clark County Sustainability Policy states: "Clark County is committed to fostering a safe, secure future that conserves natural resources while meeting basic human needs, including clean water, air and food, along with shelter, education, and employment." The policy goals include:

- Lead by example
- Promote & demonstrate efficient & effective use of renewable & consumable resources
- Collaborate with public & private partners on projects aimed at sustainability
- Identify & pursue new opportunities that promote sustainable practices

Using ecological design principles¹, the TAC has considered how to meet public needs for health and nutrition, outdoor activities, secure food systems, farmland conservation, and ecological conservation while meeting or surpassing policy commitments.

1 Permaculture's Ecological Design Principles, Appendix E

2.1 Summary of Short Term Recommendations

Short term site development emphasis is on collaboration and partnership-building. This maximizes project awareness and increases perceived value, which drives social investment. The scope of work includes areas of the site NOT included in Hazel Dell Parks bid for expansion², and does not include land to the north of the drainage ditch where current facilities exist. The full partnership budget for the TAC 3 Phase Plan is estimated at \$3.6M. We anticipate over half of this will come from funds leveraged through the proposed partnerships. We estimate a potential for about \$350k in revenue over the three to five year startup period. The estimated total cost to the County after partnership funds and site revenues are accounted for is approximately \$1.6M over three to five years. Projected revenues will cover site operations and maintenance by 2012. Appendix B contains detailed information on the first phase of the three phase plan, projecting a total combined budget of \$570k for the first phase, \$344k of which the TAC anticipates being a direct expense to Clark County. The TAC expects Phase One to last through the end of the first whole year after initiation.

Clark County and partners can plan for 3-5 years of grants to fund the start-up project. Broadly engaging the public while keeping initial infrastructure costs low, remaining focused on education and sustainable food production, and building partnerships during the first 3 years will attract groundswell interest. The proposed 3 year plan emphasizes projects which will generate this broad base of interest and support. Harnessing this energy will set a strong foundation for sustainable and regenerative land uses, sciences and arts to proliferate in Clark County. After year 5 the site is expected to generate revenue exceeding maintenance and education costs, but not capital construction / civic infrastructure or partnership projects.

First steps include creating a 2-acre community garden lease plot and 15 acres of Community Supported Agriculture (CSA) leases. CSA leases will be managed according to organic standards, and include a contract to attend watershed stewardship and other coursework with WSU. CSA's and Community Gardens will require minimal infrastructure costs, engage the public,



Community Gardens offer lifelong learning opportunities.

2 Ultimately the TAC advises incorporation of the Hazel Dell Park with the 78th St site such that it is one united site with a variety of different uses and functions.

develop positive PR and generate \$50k in revenue by year 4. Small grants may fund development of a farmers market plaza, construction of an outdoor camp-style kitchen and a view gazebo, demonstrations of sustainable power, composting toilets, and a caretaker's farmhouse. Establishment of interpretive areas and conservation zones in the forested areas of the property is highly recommended. Interest in the Site's open space and demonstration projects will engender community volunteerism and thus beautify the site through the construction of multi-functional hedgerows, forest gardens, and a children's natural playground. The hedgerows and forest gardens will begin to produce food and fiber crops in 5-12 years, all the while demonstrating sustainable practices such as erosion control and wind breaks which double as a privacy screen, and habitat for pollinator species and birds.

Developing parkland settings which incorporate edible forest garden techniques interspersed with view corridors and walking trails will provide a unique demonstration of habitat restoration, organic soil conditioning, erosion control, organic food production and recreational uses. Ohio State University studies indicate potential revenue of \$80k/ac using 'perennial polycrop' or edible forestry methods³. With a conservative estimate of 1/4 that revenue and 30 acres dedicated to this system, annual revenues of \$600k are



Farm owners learn about Edible Forest Garden guilds.

possible after establishment of the edible forestry project, which will take about 12 years. Integrating education facilities such as outdoor learning labs, camp style kitchens and view shelters, all of which may be rented for events such as wedding receptions, corporate picnics, and family reunions, will allow for revenue from diversified uses. Diverse revenue streams lead to system stability so that if one stream is slow others may take up the 'slack'. Given proper management, the revenues of years 4-7 from these spaces can approach \$30k annually.

There are many potential partners already expressing interest in the Site, including Clark Public Utilities, Vancouver Clark Parks & Recreation, Xerxes

³ <http://extension.osu.edu/~news/story.php?id=4487>

Society, Portland Permaculture Guild, and Salmon Creek Watershed Council. Strategic partnership with these skilled allies to guide restoration projects, landscape works and plantings may help qualify much of the site for Low Impact Development credits and potentially place the site among carbon credit offset sites. Organizations and agencies which should be considered as potential allies include groups as diverse as regional school districts, the Friends of Clark County, the Audubon Society, Washington State Farmers Market Association, the Clark County Conservation District, the Chef's Collaborative, Washington Tilth, the Post Carbon Institute, and Ecotrust. A full list of allies and partners can be found in Appendix C.

Construction of caretaker's quarters, passive solar production greenhouses, and a certified kitchen are worthy objectives for green building demonstrations within the next five years and well suited to proposed educational programming found in the discussion of Social and Cultural Design, "Zone 0". The most sustainable and practicable construction methodology we are aware of is outlined by Cascadia Region Green Building Council's Living Building Challenge (LBC)⁴. Revenues from registration in these courses may cover a considerable portion of the labor and construction costs for the infrastructure, while environmental and energy grants provided by the incoming federal administration can supplement the rest. The nation's leading green building practitioners and educators are residents of our region and should be showcased for the benefit of future generations. A focus on site-sourced building materials including timber, straw, clay soils and salvaged building materials will demonstrate the safety, strength and beauty of these materials while engaging local craftspeople and reducing burden on landfills. These materials are ideal for small-scale, community oriented building parties and educational workshops. This kind of inclusive process encourages local re-investment of incomes and feeds community partnership in a way that conventional development cannot.

4 <http://www.cascadiagbc.org/lbc>



Bamboo provides animal fodder & building materials.

Credit: Brad Choyt, Green Schools

2.2 Summary of Long Term Recommendations

While we considered long term goals, the TAC charrette focused on site development strategy from 2009 to 2014. With the exception of Phase One, these are not detailed in the Appendixes, but instead offered for conceptual consideration. Longer term strategies were not explicitly developed. However, our recommendations do point to development of a site stewardship policy, and suggest that the County will benefit from holding the land in Trust, potentially as a public-private partnership, effectively keeping it in county ownership and open for public access, but funded by site-generated revenue and fund raising campaigns undertaken by the Trust. A commitment to educate, explore, showcase, and experiment with sustainable food systems and regenerative designs are central to all TAC design goals. The ultimate goal of this Trust would be to provide broad-based sustainability education with a mission focus on regional sustainable food systems development, provision of endowment for local youth scholarships, and training, support and organization of farmland conservation and ecological restoration.

We advocate for establishing a functioning community farm. This will ultimately include a certified kitchen, an edible forest garden, a pollinators and animal husbandry program, a caretakers and internship quarters, an education facilities cluster for 4-H, FFA and other agriculture programs for youth. There is great potential for a secondary forest products demonstration

project including a for lease portable mill and other tools kept in a sort of rentable "farmers library of resources". Infrastructures such as solar electric power, passive thermal heating, green roofs, pervious paving and sidewalks in the planned community center and motor vehicle accessible areas, living machine gray water systems, small scale bio-gas production and humanure compost systems can offer a variety of demonstration labs for local homeowners seeking to be more earth friendly. We urge that a Community Health and Wellness office at the proposed Community Center offer nutrition and exercise programs with regular indoor and outdoor activities for youth, adults and seniors alike.

Demonstrations of specific land use and development practices will prove invaluable to the community over the coming decades. For instance, storm water runoff and soil losses generated through erosion can be eliminated through demonstrable landscape practices⁵ and strategic plantings. After establishment of the short term goals as outlined above, key next steps to success include: Exploration and adaptation of policy from cities that have adapted 0% waste goals⁶, development of a rentable certified kitchen for entrepreneurs and organizations invested in food preparation and preservation and the establishment of a non-profit restaurant featuring seasonal, local,organic cuisine. These will further showcase sustainable agriculture practices and build community partnerships. The restaurant could be operated from soil to plate by local high school and college students who would receive the added benefit of scholarship funding and work study income. Professionals across the Region in each of these areas have expressed interest in the Site and potentials. Many of them are listed in Appendix D.

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*'Chefs-in-training' with homemade 15' lasagna noodle.
Credit: Petite Gourmande*

5 Also known as 'xeriscaping'; <http://en.wikipedia.org/wiki/Xeriscaping>

6 1) Kamikatsu, Japan: www.green-alliance.org.uk/uploadedFiles/Our_Work/Kamikatsu.pdf
2) Oakland, California: <http://www.zerowasteoakland.com/Page749.aspx>

Managing the site's agricultural, demonstration, education and event spaces while benefiting the public and generating revenue is a critical component of our sustainable stewardship plan. Phase by phase development will draw public interest. This will generate willingness to personally invest as people see that their vision can take literally root at the Site. Thus, development will neither be arbitrary or superfluous, but truly a consensus of peers in an organic, democratic design process. The TAC recognizes that educational activities are typically subsidized, but intends that the on-site agricultural functions, such as the demonstration farm, will generate enough income to pay for its own infrastructure, personnel and eventually the equipment required for maintenance. Building partnerships and leading by example while being patient and open to influence from partners will put the County in the position to identify and act on the most clear and desirable demonstrations of sustainability available. The most important long term demonstration will be the trust granted to residents as they become responsible for designing the sustainable management of their own assets and resources.

3.0 The Technical Advisory Committee

Abundance Consulting was retained by the government of Clark County, Washington, to provide a series of Permaculture Seminars between Sept 5, 2008 and Dec 5, 2008. County and WSU staff, as well as private individuals, convened to learn and dialog about ecological design principles, patterns and methods as taught through Permaculture Design. This technical report and accompanying material are the result of a collaborative examination of the Site's ability to meet needs as identified by these groups and documents.

3.1 Purpose

Using the "Garden Park Concept" paper as a point of departure, this report outlines pathways to:

- Address needs and goals assessed by the 78th Street Sounding Board, Agricultural Preservation Advisory Committee (APAC) Report, the Clark County Food Systems Council's "Exploring the Clark County Food System 2008 Report", the Washington State Department of Agriculture's Future of Farming Committee, and Goals of the Clark County Comprehensive Urban Growth Management Plan (CUG), among others;

- Increase the Site's social capital by creating a public participation and program outline;
- Inspire partnership amongst governmental agencies, public schools and universities, and non-profits in order to maintain a collaborative and conservative financial strategy;
- Develop the Site in a manner which is educational, accessible to all ages and people, and functionally analogous to local rural and small lot holdings so that land owners interested in agriculture and sustainability have a model for the development of their own initiatives;
- To provide a list of actionable recommendations which can be made into visible demonstrations, including use of site development and programming as a means to educate the public, inspire and support agricultural and sustainable business entrepreneurship, and provide leadership in conservation and food systems development.

3.2 Ethics and Principles

Permaculture employs four simple considerations which lead to the development of a set of principles for design. The four considerations are:

- 1) Care for the Earth
- 2) Care for People
- 3) Set limits to Consumption and Reproduction
- 4) Redistribute Surpluses

Consider the Clark County Sustainability Policy: "Clark County is committed to fostering a safe, secure future that conserves natural resources while meeting basic human needs, including clean water, air and food, along with shelter, education, and employment." The setting of limits is a choice to be conservative. Responsibility for our existence and that of our children is, essentially, "fostering a safe, secure future that conserves natural sources... shelter, education, and employment." To conserve, or set limits to consumption, and to redistribute surpluses, means that material abundance is placed where it can thrive, be wisely used and most widely beneficial- thus caring for People and the Earth. The TAC recommendations are intended to meet or exceed policy and management goals for sustainability, agriculture and habitat conservation while meeting the needs of the community with healthy, educational and recreational opportunities. The principles which guided the design advocacy of the TAC can be found with in-depth discussion in Appendix E.

Degenerative:	Sustainable:	Regenerative:
pollute or degrade systems with use; lost by use;	unaffected by use or lost when not used	increased or enriched by use

Table 1.1 Ecological Design Scale illustrating the basis of design qualifications ⁷

3.3 Indicators of Regenerative Design

On September 5th the TAC held two focus sessions to identify indicators of Sustainable and Regenerative design. Toby Hemenway, who led the first session, noted that the indicators generated by the committee are largely social and ethical in nature. A partial list includes:

*more community & open space • nurture community
 more renewable energy • nature education focus
 build social capital • more recyclables
 honor all people of all ages • eat local & whole food
 localize resources (material & labor) • lower population
 change concepts of distance/time/scale
 (a mile = 15-20 minutes walking vs. 1-2 minutes in a car)
 protect & revitalize commons • slow down
 self reliance & interdependence • neighborhood collaborations
 less pesticides & herbicides • dense, walkable cities
 build less • use existing infra/structures more/better
 reuse & recycle rundown buildings • donate time & volunteer*

A list of site specific indicators of sustainable and regenerative uses :

*serve community & stakeholders (human & otherwise)
 open to all people, all social & economic classes
 encourage in-migrant & ethnic farmers
 offer school programming • integrate topology
 no till • no erosion • compost • humanure
 organic matter generated on site stays on site
 focus on food & food systems • showcase food-life web
 accessible via mass transit & bike • PNW-appropriate construction
 support social entrepreneurs • farm sales outlet
 sustainability conference space • classrooms*

⁷ Adapted from Toby Hemenway's Gaia's Garden

As the course progressed the lists of indicators and activities developed and gained clarity specific to actions and strategies appropriate to the site and known stakeholders. The clarity attained is shared in the individual Zone reports that follow.

3.4 Definition of Terms

Many terms used in this report are common, but when used within the context of this report have specific or unusual implications. Please refer to these definitions in order to resolve unfamiliar terms from the TAC recommendations.

Agronomy: Any food or fiber production on the working farm.

Aquaculture: Rearing aquatic animals or aquatic plants for food and fiber.

Biomimicry: The study and imitation of nature and its systems, processes and elements in order to solve human design problems.

Element: Physical feature or assembly of features, generally objects; Elements are nouns, e.g. edible forest garden, community buildings cluster, barn, tree, pond, swale.

Function: Generally *actions*; e.g. stabilizes/builds soil, produces food, provides habitat, makes nutrients available, fixes nitrogen, etc. Also '*Functional*'.

Guild: A community in which associates benefit one another; in plants and animals this is through chemical and biological interactions, e.g. "3 sisters" Corn, Beans and Squash, in which Corn provides structure from beans to climb, Beans fix nitrogen for Corn and Squash, and squash Shades soil, conserving water for Corn and Beans.

Infrastructure: The built systems which contain, control and/or convert matter and energy flows. Roads and buildings control human traffic, plumbing and passive irrigation control water, solar technologies convert sunlight to heat, electricity, etc.

Insectary: a plant or guild that attracts beneficial insects.

Multifunctional: provides multiple functions; e.g., a hedgerow that serves the functions of providing both a windbreak and habitat.

Polycrop: When multiple species of plants are grown in relation, specifically as in a guild.

Sector: The energy that enters, leaves and/or encompasses a site and/or zone, e.g. sunlight, water, wind, nutrients in cycle, animal, economic, and human traffic.

Structure: Broad scale composition of an element(s) and/or sector(s). The physical aspects which affect function; combined patterns affecting movement or flows of air (wind), water, traffic, sunlight, and other sectors.

Note:As an analogy to human society, if law and religion are structures, policy may be considered a function of the laws and religion and social exchanges in which law and religion are carried out may be thought of as elements. Effects move both ways, but structure changes more slowly over time than function and likewise, function more slowly than elements.

Zone: An area in a design which emphasizes a particular aspect of appropriate land use; Zones 0-5 are defined in terms of frequency of use by site managers and employees. Zones are not hard edged but fuzzy and intertwined. For our purposes, a general conceptualization is useful:

Zone 0) Social/Cultural Design: The human "process" of social and cultural organization.

Zone 1) Human Built Environment, Infrastructures: Where we work and live daily, as well as the infrastructures serving those areas.

Zone 2) Community and Public Gardens: Often, 5+ visits a week.

Zone 3) Food Forest/Orchards and Animal Systems: Often, 2-4 visits a week.

Zone 4) Woodlot/Secondary Forest Products: Seasonal flux, often 2-3 weeks with no engagements.

Zone 5) Conservation Units: Limited engagement, use strictly dedicated to natural, scientific, and honorific observation

4.0 Zone Recommendations

The discussion of work to be done in each zone will begin with zone "5", and work backwards towards "0". These summaries are intended to expedite understanding of the relationship of elements and program/activities to location on the site. Please see Appendix A for a map outlining recommendations for general zonation. Access to each area will depend on design evolution. Development of landscape and cordoning security features, closing time protocols and community policing are all topics which must be covered in 'next step' studies. For the short term, simple measures such as evening property sweeps by caretaker, staff or volunteers, will be taken to ensure a secure environment. Other measures may include fencing in public-use areas, and requirement of attendant or other form or explicit approval for leaving public areas. Security measures are listed within the individual zone sections.

4.1 Zone 5: Conservation Units

Zone 5 is dedicated to preservation and observation of natural patterns and phenomena. Rehabilitation, including elimination of undesirable invasive species and planting of native/functional species will be the extent of development in this zone. Supporting and preserving functional ecological relationships as evidenced by habitat and biological diversity and stability is the sole management goal in Zone 5. Specific next steps are listed in section 6.0, and include wetland delineation and determination of SEPA requirements for use as an interpretive area. While it is the TAC's specific obligation to uphold the protection of vital habitat and functions in this zone, we also recognize the under-explored potentials of working wetland margins in adjacent zones.

Development of multi-functional landscape elements such as chinampas- an aquatic version of multifunction hedgerows- along the drainage ditch may require SEPA and JARPA if it is determined to be a wetland during the proposed next steps. It is desirable that the history and function of the ditch be expressed so as to qualify it for a "Mitigated Determination of Non-Significance". Practices of integrated ecological agriculture and aquaculture applied in the wetland margins will enhance Zone 5 by conserving soil and water resources, providing habitat and offering educational, aquacultural and horticultural opportunities. This in turn opens a great opportunity for further exploration and dialog between landscape and design professionals and state and county agencies about how we delineate, recognize and manage wetland margin areas for the mutual benefit of ecology and human needs.

Security measures for Zone 5 during the startup phase will include evening

closure sweeps after community access to other zones has been closed.

4.2 Zone 4: Woodlot/Secondary Forest Products

Zone 4 is designated for wild crafting, facilitated educational experiences such as 4-H challenge courses, small acreage forestry demonstrations, and as a secondary forest products woodlot. Very little conventional cultivation will be practiced here. However, debris mounding and other methods of reducing fire and erosion potentials, as well as wildlife habitat cultivation and preservation will be implemented. This will include thinning the overly dense stand areas, demonstration of field-to-forest succession plantings, placement of interpretive signage, and planting of forest guild members which are known to benefit systemic health and fecundity. Mushroom and berry cultivation demonstrations will occur on the margins of Zone 4. Some recreational value will also be established in Zone 4, including walking paths and outdoor learning labs.



Shiitake mushrooms growing in the forest..

Security measures for Zone 4 during the startup phase will include evening closure sweeps after community access to other zones has been closed.

4.3 Zone 3: Orchards and Animal Systems

Zone 3 is the integrated edible forest garden and animal range lands. After the findings of the surveys listed in 'next steps' in section 6.0 are clear, information will be available to make best recommendations for the location of earthworks. These will include ponds, watering holes and swales, which in turn will help define the location of animal barns and range and paddocks systems. By use of these "grounded" systems of irrigation, water needs are greatly reduced, reducing long term infrastructure and maintenance costs.

Extensive plantings of edible species in this zone will eventually include up to 300 fruit trees per acre, with a compliment of guilded associates to provide insectary, nitrogen, and mulching services. The understory will be planted with annual edibles, herbals and medicinals. This edible forest garden will provide human food, marketable crops and fibers, and forage for farm animals, as well as opportunities for recreation and education.

Based on next step studies, a Gantt chart with implementation phases for these different systems will be developed. Stacking functions of energy and resources from one design element to the next will reduce costs and provide educational opportunities. Examples include using left over clay from swale construction in natural building projects in Zones 1-3, use of landforms and vegetation to create 'ha-ha' fences which both feed and confine animals, and on-site production of fiber for building, such as bamboo, willow and filbert coppices.

Security measures for Zone 3 during the startup phase will include evening closure sweeps after community access to other zones has been closed.

4.4 Zone 2: Community and Public Gardens

Zone 2 will be composed of Community Gardens, CSA and incubator plots, outdoor kitchens and learning areas, animal barns and greenhouses. Zone 2 will see daily use by the public. The main Zone 2 elements will be whole systems unto themselves, integrating many 'smaller' elements including compost systems, humanure outhouses, demonstration gardens, trail networks, biogas converters, living machines, and all of the pens and corrals associated with animal husbandry and so on. Issues such as peak capacities for safety purposes, parking, 'damage control', potentials for ecological and environmental disturbance, irrigation load and necessary upgrades will define many characteristics of land use in Zone 2 and direct its development.

Zone 2 may be fenced early in the project in order to prevent confusion about the limits of the public open access to the site during daytime hours. Strategic planning and site studies will allow for eventual implementation of walking trails for access to site facilities such as the view gazebo, and forest interpretive trails. In any event the CSA leases should be cordoned in order to assure lease holders that there is a level of security against vandalism.

4.5 Zone 1: Human Built Environment & Infrastructures

Zone 1 includes the farmers market, demonstration farm house, certified kitchens, greenhouses, restaurant, and the maintenance buildings for site infrastructure. Though not included in our 3 phase plan, we discuss these elements here as they are integral to the long term function of the site structure. Zone 1 is a place where people who come to the site daily will spend most of their indoor time. Current infrastructure, geotechnical surveys combined with hydrology, a review of the sector analysis mapping and other considerations will define where future buildings and infrastructures will best be located. Design of elements included in Zone 1 will be based in part on a wide variety of findings from surveys and reports previously mentioned, e.g.

human traffic volumes, mass transit and bicycle planning, educational programming needs, security issues, production capacity of the landscape, etc.

A public farmers market, designed with an open space emphasis able to accomodate growth over several years, will generate interest in site programs and activities. During time it is not operational it can double as overflow parking for other site events and activities.

First year infrastructure for the farmers market is inexpensive and further development costs can be recaptured in 5-7 years with revenue from lease of the stalls. Initially operating one or two weekday evenings during summer and fall months, and expanding to a 4-day schedule covering 8 months, the farmers market will become a potential driver of income over the third through fifth year. Focusing on sale of fresh, local foods and cottage industry goods, there is potential to capture stall lease revenues upwards of \$50k annually by year five. It has been mentioned that a



Year-round Farmers Market at People's Food Coop in Portland, Oregon.

historic Silo may be brought to the site; this silo may be a strong iconic symbol for the farmers market, acting as a visual reminder of our past, and drawing people to our common future.

A demonstration farmhouse built with onsite materials such as timber, straw and clay, and local labor in the form of a work party, will allow local code officials and construction companies the opportunity to understand the detail work of this method. By way of comparison, an 2.5 acres of land can produce

enough straw to build 40+ 2000 sf houses in the time it takes the land to grow timber for @12-14 houses, about 40 years. Thus, in one year, a 3600sf house easily can be grown on 5 acres. Another advantage to this is elimination of insulation, which includes VOCs and requires separate installation; strawbales are seismically superior to stick and timber frame construction, and offer R-40 insulation while be less prone to catastrophic fire than wooden buildings. Code officials in Kittitas County have permitted dozens of these structures and are available for consultation, as are the consultants at the Developmental Center for Appropriate Technology⁸ (DCAT), a non-profit organization in Tucson, Arizona. DCAT Chairman David Eisenberg, former director of the USGBC, has written straw bale building code for four states and consulted on several projects in Washington and Oregon.



Rammed Earth

Many buildings will be needed for Zone 1 activities. Results from the recommended 'next step' studies, assessment of onsite resources, and the level of community engagement with the site will offer a clear path to meeting public needs while staying committed to the county's sustainability policy.

A large portion of the north side of the property which is not in the acreage considered by the TAC will fall under the definition of Zone 1. We recommend that lighting, access control fencing, and security cameras be installed at strategic locations in order to prevent automobiles from entering the farm lands and to create a safe public environment.

⁸ <http://www.dcat.net/>

4.6 Zone 0) Social/Cultural Design

Zone 0 is the socio-cultural aspect of the design. The TAC recommends the design openly express a public access policy which includes all people of all ages, races, cultures, religious identification or practice, sex or gender identity, physical or developmental limitations. The TAC intends that this be done in the context of organizing an ecologically functional facility which focuses on use of biomimicry for the county-wide benefit of food and community health systems, education and sustainability demonstrations.

Development of a clear partnership agreement will be essential. Clark County will need to take a leadership role in a partnership with WSU, Vancouver Clark Parks and Recreation, public schools, local colleges, Non Governmental Organizations (NGO) and others wishing to provide on-site educational programming and hands-on sweat equity toward building a diverse community partnership. To this end the TAC recommends that a "Friends of the Farm" steering committee or coalition be established in order to work with and disseminate information to the public as the county follows up on the TAC's recommended 'Next Steps'. In addition this group would work with Vancouver Clark Parks and Recreation to promote programs for youth, adults, and seniors. This group will essentially be a public advocate for site development, working closely with the site director in order to maintain an open door and transparent site development process.

Outreach to partners identified in Appendix D has already begun, and interest in partnership has been extended by a number of organizations. WSU Extension Service has historically provided on-site programming including Master Gardeners, youth programs, and demonstration projects by the Watershed Stewards and Small Farms Team. Clark Public Utilities has suggested they can immediately provide Northwest Service Academy Americorps Volunteers to the site for water quality related projects; given a year, the site may develop its NWSA own positions. The Department of Corrections has a beneficial agreement around maintenance labor which can continue, greatly reducing maintenance costs. This could develop into a vocational training program over time. Many non-profits have also voiced interest in providing energy and volunteerism for the site. These including the Xerxes Society, which does conservation work with native pollinators, Portland Permaculture Guild, which networks around workshops on sustainability topics, and the Salmon Creek Watershed Council, who work to preserve the salmon habitat in the local watershed.

The Hazel Dell Neighborhood Association will be able to provide invaluable input into the development of the local needs which the site may address, as can Clark County Public Health. Partnership with local school districts will

bring immediate investment of hands and hours by way of youth education practicums, and in return offer education and inspiration for sustainable development that can reach into the work and lives of future generations. Outreach efforts to the Audubon Society, Future Farmers of America programs, the Clark Cowlitz farm Bureau, the Clark County Food Systems Council and local granges are likely to prove beneficial to site development.

A successful partnership model may be taken from the University of Oregon's Sustainability Leadership Program⁹. Government employees, private for-profit and non-profit business and individuals alike flock to this program, lending to Portland's national recognition as a leading 'Green City'. Organization in partnership with WSU, and potentially Clark College, may allow the site to benefit from a more hands on version of this very successful program. Using a 'barn raising' or 'work party' model as the core of the practicum based education, revenue and labor toward site development may be realized. Adult continuing education in sustainability programming designed for planners, construction and landscape professionals will give this site regional appeal, providing the county with revenue while training contractors and businesses in sustainable methods of land use and construction for the benefit of generations to come.

Rather than competing, the Site can synergize with U of O offerings and create recognition of WSU and Clark County as an equal partner in the regional success of sustainability initiatives. Setting the foundation for this programming in the first 3 years will give Clark County and her allies a lead role in the sustainability sector of economics, one of the few sectors showing growth during the last 5 years. Clark County will benefit from this by providing this education to its residents, labor force and local businesses, placing her workforce among the leaders in national sustainability economics and green building and development.

Other partners will offer grant and donor development, research into existing programs and models which can inform future development, community outreach and marketing, open house and events development, and volunteer outreach. The formation of a "Friends of the Farm" coalition poses certain strategic advantages which outweigh the perceived obstacles of a broad input base; to wit, while it will take time to develop the coalition and clarify how to address needs, the end result of this proposed coalition will:

- Encourage an open community seminar series with education and consensus driving a democratic site planning and development process leading to direct community collaboration in site design and use;
- Be more attractive to granters and donors than a single party design effort;

⁹ <http://sustain.uoregon.edu/index.php>

- Identify and address community needs in the most democratic and holistic way possible;
- Produce widespread investment by a broad base of supporters who will take pride in and feel ownership of the project, thereby stabilizing its long term viability;
- Garner broad regional and potentially national support, making the Site a learning center and seed site for other communities who wish to embrace its successes and reproducible results;
- Provide positive attention for the leadership displayed by Clark County and its agents.

5.0 Policy & Finances

A Gantt chart outlining the first phase of a three phase, 3-5 year startup plan is found in Appendix B. While estimations of itemized expenses are being withheld until reliable numbers are posted from county and other sources, timelines, and partnership potentials for key elements of the design are outlaid. Items outlined in this chart include the community garden space, CSA leaseholds, a farmers market plaza, a children's natural play area, and a caretaker's farmhouse, among others. Strategic notes towards realizing these goals are outlined herein.

It is the explicit intent of the TAC that the educational and demonstrative function of the Site be affordable to the citizens of Clark County. Educational and demonstration 'take home' offerings should include a majority of practices which are financially possible for any creative household regardless of annual income. However, the Site will be funded very differently from a privately owned site. Some financial comparisons between a private site and the 78th Street Site will prove problematic. In order for a publicly funded site to offer models and demonstrations which can be implemented on private property, transparency of assumptions and practices must be addressed. The burden of responsibility on behalf of the County is clear: The majority of county residents lack access to model sustainable practices. If the County wishes for private landholders to adopt these practices it must take a leadership role in demonstrating them in a manner that is approachable and affordable to small farm and home owners.

It will be important to distinguish between the financial tracking of the site's functional agronomy and the sites educational and recreational aspects. Financial transparency will be vital to the public adoption of sustainable demonstrations on their private land. Clarity will also be invaluable for fiscal planning. While the funding paths of education and agronomy will often be

intermingled, a transparent process acknowledging comparison limits is essential.

Start-up grants available from the public and private sectors will be vital to the first five years of site funding. Partners will benefit by immediately identifying and applying for these grants. During this time grant support will constitute a large portion of the overall site funding. However, within five years the agronomic endeavors should generate revenue sufficient to offset much of the staffing and maintenance costs. Education and recreation facilities and staff are typically-though not always- an exception to this offset.

5.1 Agronomy Funding

CSA lease holds, community gardens and other aspects of public access agronomy are intended to assist start-up operations by individuals and organizations focused on sustainable and organic farm ventures. These may be offered at a fluctuating rate which is under market standards. Thus, inspired individuals can approach the site with a solid business plan and ample energy, attaining support towards their success. Participants in the 'agricultural entrepreneur incubator' will have access to counsel and educational opportunities for developing their agricultural businesses. While the lease rates will be as low as is feasible, the County must cover expenses incurred in making the opportunity available. Community events, ranging from garden and harvest parties to wedding receptions in an outdoor kitchen or learning lab, may bring as much income in one day as a 1/2 acre CSA brings in one season. Facilities with the flexibility to accommodate various high demand service sector recreational activities can become a support structure affording the agricultural entrepreneurs the lowest reasonable prices. This may grow to include an onsite garden-to-restaurant program dedicated to provide scholarship funding and work study opportunity for students of agronomy and culinary arts. The win-win scenario of coupling a beautiful space for private rental engagements with provision of a legacy of benefit to our community is a powerful strategy for meeting the needs, and gaining the support, of our community.

A membership program such as administered at the Vancouver Clark Parks and Recreation Marshall Center may offer reduced fees for education or events access or facilities leasing while providing a committed site revenue. This model is already active and proving successful at many Vancouver Clark Parks and Recreation facilities, and can be easily applied to aspects of the Site's programming.

Maintaining financial clarity so that private citizens can understand the cost and benefit they would be likely to experience when implementing a given land use practice is essential to promoting sustainable solutions. Putting demonstrations on the ground is essential for citizens and the Site. However, the Site's function as a public demonstration, as opposed to a private venture, will incur costs that a private site would not. A comprehensive understanding of the Site's resource base and sector patterns will inform income producing strategies for the Site agronomic activities. Income sectors can be mapped the same way physical sectors are mapped. Given structure, for instance a relation between site produce and restraint needs across seasonal variances, will provides education in economic management. In partnership with an academic institution, potential arises for realizing the mission of education even in the process of site fundings managemnt. Other opportunities exist, and must be explored if the site is to achieve its designers vision.

The Site's agronomic constraints and opportunities will be defined and maximized by many of the studies proposed in Appendix 6.0. These studies will define the potential area of the site which can be dedicated to such practices as were demonstrated at the University of Ohio(UO). Given even 25% of the efficiency achieved by UO, \$20k revenue per acre upon marketable maturity (12 years), this program will generate revenue to recover project start-up and cover ongoing costs. At a high rate of return it will provide support funding for other onsite needs. Meanwhile, it will demonstrate to local citizens how to build a sustainable small acreage food systems throughout the lower elevations of the county, spurring individual and community entrepreneurial success and fostering food security in the region. It will aslo act as a lab for local students where biology, ecology and horticulture, amongst others, can be studied. In addition, students may work the site for income in a sort of 'you pick' fruit harvest, simiar to the berry picking which once went on at the site. Planting this edible forest is a short term expense with a long term return which the county has the access to knowledge and wherewithal to accomplish.

5.2 Funding Educational & Recreational Opportunities

Education is one of the most culturally and socially rewarding investments a community can make. Funding the site for education and associated facilities will require collaboration with a diversity of stakeholders committed to a common vision. Integrating programs such food systems education with the hands on managment of polycrop orchard or animal husbandry system will require skills ranging from accounting to zoology. Academic knowledge and dogged common sense must be partnered. Ultimately this system is best accomplished by the community rather than delivered to the community. The Local Farm Bureau, working in conjunction with WSU Extension Service,

WSU's The College of Agricultural, Human, Natural and Resource Sciences, Clark County Food Systems Council and Conservations Districts, and other coalition members can form a team which outlines the needs of the community and the oportunities which this site presents in meeting them. With this colaborative effort, the citizens of Calrk county can be engaged to maintain this commons. In coming years people will need access to fresh, healthy food. Giving them a place to learn about their environment, engage socially, and come home with fresh healthy produce is a win-win situation for all concerned. With Clark County's leadership, institutions, agencies and organizations in public and private sectors will have the incentive to contribute to the site development and thus to their communities and shared futures.

Working together to build and maintain multifunctional facilities will entail balancing schedules for educational and public events. Vancouver Clark Parks and Recreation uses this model in many of its facilities, including the Luepke Senior Center. Rental for educational and recreational uses by groups, combined with open hours, allows for the facilities maximum benefit to be realized. This model also contributes to the notion of a social trust. Used to provide education with a focus on local food systems, nutrition, diet and exercise, Site prorams will contribute to reduced private and public health care expenses while increasing quality of life. These benefits will continue for decades, and be complemented by the widespread environmental benefits as home and farm owners implement sustainable land use practice.

Organizations with express interest in providing education thorough practicum should be courted in the initial years. Use of on-the-ground education will provide the additional benefit of building the Site's biological systems and preserving its ecology. For instance, the Permaculture Research Institute (PRI) in partnership with WSU Extension Services can maximize potentials for volunteer and intern engagement while providing outreach and PR options. This may extend to the international level given PRI's global Learning center initiative, WSU's international studies program. The Developmental Center for Appropriate Technology, a key player in the USGBC and sustainable building code development, is interested in collaboration with academic reasearch in agriculture's relation to construction sciences. This partnership has the potential to produce much in the arena of sustainable building sciences and education while building site infrastructure. The Clark and the Evergreen State Colleges, as well as state agencies and regional non profits are natural choices for including in developing site educational opportunities. Promoting sustainable land use incentives to home and small farm owners will be a priority of the sites educational mission, perhaps in conjunction with the APAC's recommended 'farmbudsman" position. Over three dozen potential partner organizations are identified in Appendix D.

Partnering educational organizations will provide instructors and curriculum. By providing simple infrastructures such as leasable office space and outdoor classrooms, the County will facilitate establishment of inter-organizational relationships, building synergy and momentum among the county's allies on the path to sustainability. Working in tandem with a variety of private and public partners will allow grant pooling and cross-pollination of activities. The basic educational facilities placed on the ground in phases one through three will also inform collaborations which may greatly assist funding the planned community center. The TAC encourages the County to open the door and act as an usher, inviting partners in and seating them in an arrangement that synchronizes their talents and visions.

TAC strategy advocates for the County's facilitation of organic assembly of partners in land development. Bringing citizens and partners to the site and allowing them to develop the master planning will serve the project by allowing the process to be driven by educational processes and consensus from day one. The zone designs and sector mapping in Appendix A will offer these groups broad vision and encourage thier organic assembly by providing interest areas that they may collaborate around and from. The county will do well to let the partners develop programs and design landscape features such as outdoor learning labs and other community areas. After the 'next steps' studies are complete, they can be used in compliment with partner programs and relationships to develop a transparent and reproducible site master plan process. Implementation of capital construction before or without this process will reduce site potentials to benefit the community. Allowing partners the opportunity to dialog about site development prior to committing to a site master plan will build consensus, leverage opportunities for grant monies and program offerings, and increase public participation and perception of the Site.

5.3 Cost Comparison: Ecological vs. Conventional Design/Build Projects

Conventional construction development processes typically budget more for material cost than labor. The ability to use fossil fuels to reduce conventional construction costs with industrial processing, production volumes, and shipping has allowed modern manufacturers an unprecedented ability to create large, uniform building products with international delivery potential. Natural building materials are inexpensive compared to conventional materials, yet the skilled labor typically required for raw or non uniform materials and projects, which often require high amounts of hand finishing and architectural problem solving, cannot compete with industrial production speeds. Despite this, studies have shown that on a square foot basis for

equal amenities in a 1200 sf home, natural building costs are similar to conventional building. However, the expanded time line and complex permitting process attributed to non standardized materials often favors conventional construction methods and assembly line labor over sustainable, locally produced materials and skilled labor. Thus sustainable materials and methods are overlooked while carbon footprints are maximized and artisan skills lose appreciation.



Rebuilding Center, Portland Oregon

The TAC recognizes that current economic indicators and the state of the county budget are not favorable for large scale infrastructure investments. During the first 5 years of Clark County's management of the Site, the TAC recommends that community involvement be a key driver in all on-site design activity, from site mapping to master planning. Design team 'tenure' developed through repeated attendance at public trainings will lead to small, design/build projects- Sweat equity site improvements. Construction projects with a focus on local, natural and renewable materials, lead by local craftspeople facilitating barn raising style educational events will produce the maximum benefit per dollar invested. As explored in seminar with the TAC, landscape design elements such as view gazebos, outdoor kitchens, and domestic construction, such as a caretaker's house and a certified kitchen, can be designed and built with locally available natural materials. Many local and regional non profits are eager to participate in these activities. An

example of this kind of effort is the North Central Regional Library in Mattawa, Washington. A partnership between the State and non profits including Terra Commons and Farm Workers Advocacy groups, this library project was built of local straw, timber and traditional clay plasters. This is a model we can apply to Site development.

Offering green and natural building workshops on a fee basis will compliment the sustainable agricultural education. Use of renewable energy resources, production and use of natural finishes, and natural construction have a proven track record of providing powerful cost mitigation on independent small farms. Offering education on these technologies will produce site infrastructure and revenue while increasing awareness of sustainable practices regionally. By timing activities correctly, it will be possible to harness the energy of one activity and invest it in another; for instance, planting grain crops for an early summer harvest will lead to both threshing bees and straw bale production.

This provides several opportunities. While we understand grains from the point of view of production fo human consumption, little work has been done to understand the uses of straw as secondary product. Bales of various grains can be tested to determine which species produce the most desirable bale given a specific need - such as construction or mulch material- in our specific climate conditions.

DCAT and WSU are both interested in this work for a variety of outcomes. Producing bales on site will mitigate landscaping and construction costs by thousands of dollars as demonstrated in the timber and straw construction comparission found in Section 4.5. In addition, the grain harvest can be marketed through a CSA incubator. A local individual has already contacted us inquiring about a grain production CSA. They would like to hold a small scale, hand powered 'harvest'; last year they hosted a similar workshop for several dozen participants at a site in Estacada, Oregon, producing 80 bushels from one acre. As members of the group live primarily in Portland, 78th St is far more accessible to them. This can be combined with programing, such as mentioned in Section 4.6, that teaches sustainable construction methodology. This will mitigate the cost of a desired goal: developing and testing a sustainable building technology. Green and natural building projects have gathered increasing state and federal attention in the last decade and given current development trends are now likely to receive more grant funding than ever before.

6.0 Next Steps

A clear strategy must consider compliance to local state and federal law, development of partnerships, site physical and ecological properties, sectors, elements, functions, and zones (structural assembly), security, and opportunities for accessing funds.

6.1 Conventional Data, Analysis & Permitting Processes

When Tom Holz, P.E., visited the TAC he spoke on the use of HSPF FORTRAN, a hydrology simulation model for developing storm water handling systems. He commented that after twenty years of knowing the model is inadequate to the task, a new model is still not forthcoming and our storm water issues are getting worse. He then proceeded to show us a montage of 14' wide roads without curbs, gutters, or drains. Here water is absorbed by soil and foliage at the roadside. Pedestrian lanes and private property are protected by swales filled with healthy green plants. Most of these streets are 50+ years old, though a select few are modern "experimental" designs. None discharge stormwater, and each displays clear design elements which are desirable and reproducible.

The Site has the potential to demonstrate a wide variety of simple, elegant solutions to human, land use and environmental design problems identified by a broad contingent of recent reports. From road design to integration of wetland crop systems into floodplains, policy changes must address that it is functional relations, and not objects, which create system stability. As

sustainable practices develop, their adaptation will result in cultural, economic and food system stabilization while benefiting the ecology. Using the site to demonstrate a broad scale of regenerative design practices for the regional community will reinvigorate and stabilize local businesses,



Foliage thrives along this zero stormwater urban lane in Olympia, Washington.

communities, and ecologies. The use of conventional data is encouraged in Permaculture, and where TAC recommendations are acted on conventional data sources will be invaluable for developing drafted if unconventional or experimental design considerations aimed at surpassing current standards.

Clark County geodata and the National Agricultural Statistics Service, among others, have compiled extensive data and information sets about aspects of the site. Available data includes a broader list than will be discussed here, but worth mentioning is soil mapping, wetlands and critical areas identification, land use zoning, and archaeological data. Site design proposals which would require development permitting such as SEPA, JARPA, and Clark County Heritage Program applications may also be used to offer review for the benefit of application development.

Below is an outline of work remaining to be done before landscape architectural designs can be detailed. This includes surveys, technical data interpretation and modeling, and public discourse. During the seminar series we began many of these explorations. They will be noted whenever appropriate.

6.2 Surveys and Assessments

1. ***Soil testing*** will benefit the development of CSA's, Community Gardens and forestry projects by providing information on nutrient availability and balance, mineral contents and biological activity. We took 20 soil samples on September 19 , 2008, and logged the source location (Appendix C Soil Map), as well as taking field notes about soil conditions including compaction, apparent erosion, and nutrient level indicators based on observation of plant communities. The physical samples have been entrusted to Pete DuBois, Clark County Sustainability Coordinator. Field notes are published in Appendix C.
2. A ***geotechnical survey of critical slopes*** and specifically along the slopes to the south of the wetland, focusing on specific measurements of soil horizons and compositions, subsurface water flow measurements to 12' dependent on location, and notation of bedrock slopes and proximity of anticlines to any critical slopes will greatly influence and positively affect the detailing of element distribution such as swales, irrigation ponds and fire prevention landforms. Much of this data may be collected by college interns under the direction of a P.E., so that opportunities for education and relationships between students and potential employers are served by site development processes. The TAC has noted that site soils typically drain at .5" to 2" per hour according to Clark County Soil surveys. This information is valuable in that it helps determine the potential rates of overland flow

during storm events and has led to the discussion of development of swale systems and their appropriate use in regards to water and soil conservation. A geotechnical survey will build on this information and allow for the best possible placement of soil and water conservation elements.

3. A site-wide **hydrologic model** based on rainfall and geotechnical findings will allow for an understanding of the water delivery speed and volume from up-slope areas, as well as soil saturation issues in the wetland margins. Because we know that water conveyance can be affected by landforms such as terraces and swales, as well as density and species of plantings, we can develop plans for appropriate land forming and species plantings which can produce food, fiber textiles, and recreation opportunities. As with other survey work, a P.E. working with interns will be a valuable approach to gathering and interpreting data towards a final report.
4. A full **survey of the site well and irrigation systems** is recommended. Capacity, change in water level, pressure, repair, upgrade and maintenance scheduling are detailed in the Phase 1 (Appendix B). Maintaining the current functional systems and phasing in upgrades and expansions according to budget availability will assure water is available for site users. Water availability is expected, in early phases of the project and until upgrades and expansions are made, to be a limiting factor for community use at the Site. WSU extension service are already in discussion with Clark County Public Utilities about the development and upgrade of this system, and this survey will support the development of the Community Gardens, CSA lots, and other design elements which will need irrigation in the first phases of this project.
5. A thorough **species inventory of flora and fauna** will better allow for understanding of functional ecological relationships at the site. These relationships often suggest which ecological design patterns we may expect to succeed. It will also give us an opportunity to address and develop specific strategies for preservation of protected and desirable species. In areas not slated specifically for rehabilitation and/or preservation, we can use patterns which complement the existing functional relationships so as to integrate and bolster habitat and food production practices. A full species survey will allow site designers the ability to plan successfully for both. While a formal survey has not been initiated, many species, native, and non native alike, have been identified. A thorough species inventory and determination of the functional relationships will help to identify where native species can

be benefited by restoration practices. This survey will also benefit from integration of intern energy under the supervision of a field biologist or WSU extension faculty.

6. An **archaeological delineation** of the extent of the graveyard has already been established. On the ground truthing of the boundaries and establishment of a clear set of monuments demarcating the area is essential to keeping this heritage site undisturbed and dedicated to use as a reverential space and source of community education about the history of the Site and the county at large. A single placard currently exists onsite, and a list of those interred at the Site is also available; by clearly defining the area where which this piece of Clark County heritage lies, it can be preserved for the reflection and benefit of generations to come. Registry of the graveyard as a Historic Area may be an outcome of pursuing this process. How this affects the site development will be an item requiring consideration as the process moves forward.
7. The old farmhouse, where the WSU Extension offices are currently housed, is qualified for **historic registry**. Members of the community are already discussing this process. Renovation of the building will be affected if registry processes are initiated and, conversely, renovation may impact qualification for registry grant funding. Review of options with a qualified contractor is highly advisable. Furthermore, the potential for integrating building renovation into site sustainability goals should be explored. While the old farmhouse lies outside of the area the TAC has outlined in its site development proposal, its role as a focal point for indoor activities during the first years of site use will require certain accessibility and logistical functions to be supported. Making these consistent with sustainability initiatives will add to the community's perception across Site projects.
8. A **wetland delineation** currently defines the extent of the wetlands. Ground truthing this will allow site designers to preserve this area of the site, insuring that species which are endemic, threatened or endangered are protected during site development. It will also allow site designers and future users to clearly, thoughtfully and deliberately engage with the wetland margins for purposes which include preservation, education and experimentation with the processes and practices of restoration, conservation and co-habitation. Development plans which triggers SEPA or JARPA should be clearly noted and taken into consideration.
9. A **determination on the irrigation drainage ditch** will show if the ditch, which hosts wetland species, is protected by law. The ditch is an

irrigation runoff channel, and manmade. It would dry completely in the summers if not for irrigation overflow. Because of the constancy of irrigation overflow during the last several decades it has become a host to wetland species. If the ditch determination shows Non Significance, or is otherwise approachable by site designers, it will prove invaluable for experimentation and demonstration of appropriate land use practices for stream-side living which, proliferated throughout the county, could provide for areas of productive horticultural production while serving as habitat for wetland species, such as is promoted by the Multi-Functional Hedgerow practices encouraged by Oregon State University.

10. A **public access and traffic patterns study** will assess practical volume control and limits for vehicular and foot traffic, security and attendant issues. While vehicular access throughout much of the site will be limited or denied, parking, building capacity, potential water demands, impact on zones and systems, target volumes for transit, car, bike, and pedestrian traffic will all be invaluable in determining the best infrastructure solutions to the development of the site and its maintenance in years to come.
11. **Americorps positions** applications to support the work of the following areas should be undertaken immediately: 1) Sustainable Ag, Forestry and Animal Husbandry- technical farming internship; 2) Appropriate Technologies- construction research, materials and methodology experiments, policy and practice assessment and analysis. 3) Public access and programming- community involvement participation and programs, including community gardens, CSA leases, workshops, recreation, etc.
12. Asking for cohesion from Allies and Partners for **Grant Access and Opportunities**, perhaps developed as a roundtable meeting by late March or early April. Identifying grants appropriate to the team, developing collaboration and displaying partnership and pooled resources in applications will be a powerful way to forge ahead.

Of these goals, 1,3-6, and 8-10 are all processes that can be accomplished without RFP and budgeting through the engagement of Permaculture Design Seminars. Because multiple teachers are brought to each course, and because many of these teachers have P.E. licences, are wetlands delineation certified, or biologist with statistical survey backgrounds, etc., these objectives can be met 'in house' while providing quality education to local citizens and visiting neighbors, all the while generating revenues.

7.0 Conclusion

The potential to develop the Site as regional destination for teaching sustainable and appropriate land use for small farms and other appropriate and sustainable domestic uses will stabilize and increase quality of living both in the Hazel Dell neighborhood, throughout the county, and even the region. The TAC intends that site development demonstrate a clear practice of caring for the land and service to the people of Clark County. Commitment to community engagement, conservation of open space for recreation habitat, public access to land for healthy food production, and provision of sustainable design demonstration and education for domestic scale projects honors our heritage and cultivates a proud legacy. With the submission of this document we intend to inform site design such that generations to come and the county environment at large may benefit from engaging with the Site.

The TAC's recommendations are focused on landscape scale designs and collaborative processes which will enable the community to learn more about sustainable land use, food systems and public and personal health while building a working farm, community gardens, CSA leaseholds, and open space recreation and preservation grounds. The TAC recognizes that other uses are being discussed for the site and that these uses will also meet real needs. Other site activities include the development of community center, a food bank, a restaurant and potentially other amenities. The recommendations of the TAC have, so far as it has been privy to discussions of these developing uses, sought to reconcile its intent and recommendations with the eventuality of integrating with other site use plans. The TAC intends these recommendations inform consent about honoring Clark County's agricultural heritage and working to enrich the legacy handed over to future generations.

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USDA National Agricultural Statistics Service (NASS)
www.nass.usda.gov/

Appendices

Appendix A: Zone & Sector Maps

Appendix B: Budget & Timelines

Appendix C: Site Soils Basic Survey

Appendix D: Allies & Potential Partnerships

Appendix E: Ecological Design Principles

Appendix F: Technical Advisory Committee Members