

The Clean Energy Fund Grants - Application

Please thoroughly read the call for applications prior to submitting your proposal. We will not consider incomplete applications. **In order to be reviewed by the committee, applicants must first submit their proposal to the campus area responsible for oversight in order to receive preliminary approval.** Applications receiving preliminary approval or questions regarding the application process should be e-mailed to the coordinator at cleanenergy@evergreen.edu before the deadline.

Project Title

The Japanese Tea House at Evergreen: A model of sustainable construction and operation

Project Lead

Michelle Pope

A NUMBER

A00043733

PHONE

360.867.5031

E-MAIL

popem@evergreen.edu

Student, Staff or Faculty Group

Chanoyu: Traditional Japanese Culture and the Way of Tea

STUDENTS

50; *Chanoyu* program

FACULTY OR STAFF

Daryl Morgan
Tomoko Hirai Ulmer

Faculty or Staff Sponsor

Walter Niemiec

niemicw@evergreen.edu

Campus Location

Meadow behind the Library

Primary Affected Area

Visual Arts Operations
Facilities

Requested Budget

\$14,500

Academic Term

Fall, winter, spring 2013

Dates

January 7, 2013 -
June 30, 2013

Project Description (140 words or less)

We request funding to construct a *Chasitsu*, a Japanese tea house, at an approved Evergreen site. This project will be a model of sustainable design and construction built entirely in the traditional, low-impact Japanese manner by students enrolled in *Chanoyu: Traditional Japanese Culture and the Way of Tea*.

The ancient Japanese practice of building post and beam structures is a culturally correct and technologically sound construction method placing strong emphasis on skillful hand-craftsmanship (not power tools), imaginative use of repurposed materials (including salvaged timber), and respectful integration with the natural landscape. Without power or running water, the *Chasitsu* will house activities in sync with diurnal and seasonal cycles, hearkening to simpler sustainable living practices.

Outdoor interpretative panels and a web page will educate visitors about the sustainable construction, use, and upkeep of the *Chasitsu*, along with its cultural significance.

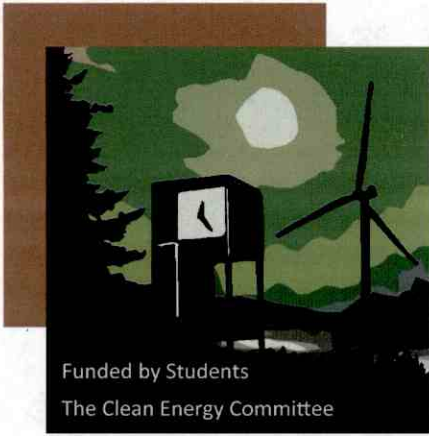
Timeline

The Campus Land Use Committee (CLUC) has approved a site. Design and budgeting are complete (see attached). We seek \$14,500 in Clean Energy funding for the construction of the tea house itself (to be **completed by June 2013**) and one of two planned interpretative panels. In-kind donations will fund the remaining \$8,700 required for construction. Future planned academic programs will further develop the surrounding garden and internal equipping of the tea house. **The project has strong community support.** Donations for the entire project so far total \$13,010.

Metrics

The metrics of success for this project include:

- Hands-on, intensive **education of 50 students** (24 credits each) in the **sustainable practices of Japanese building design, and craftsmanship.**
- Ongoing **education and inspiration of the public** for many years to come about a building practice that is at once ancient, sustainable, and beautiful.
- Completion of the *Chasitsu* on time, within budget, and **using low-impact and repurposed materials and sustainable methods.**



Areas affected by proposed project

Prior to a full review by the Clean Energy Committee, all grants must receive preliminary approval from the campus area to be responsible for the administration and oversight of the grant. Please refer to the call for applications for help identifying the area of best suited for oversight of your project. If you have further questions regarding areas affected by your project please contact the coordinator at cleanenergy@evergreen.edu. Be sure to allow yourself enough time to communicate with staff and faculty before the deadline. When preliminary approval is received, please have the affected area submit an e-mail of support for your proposal.

Project Title

The Japanese Tea House at Evergreen: A model of sustainable construction and operation

Other Participants

Daryl Morgan, Faculty
morgand@evergreen.edu

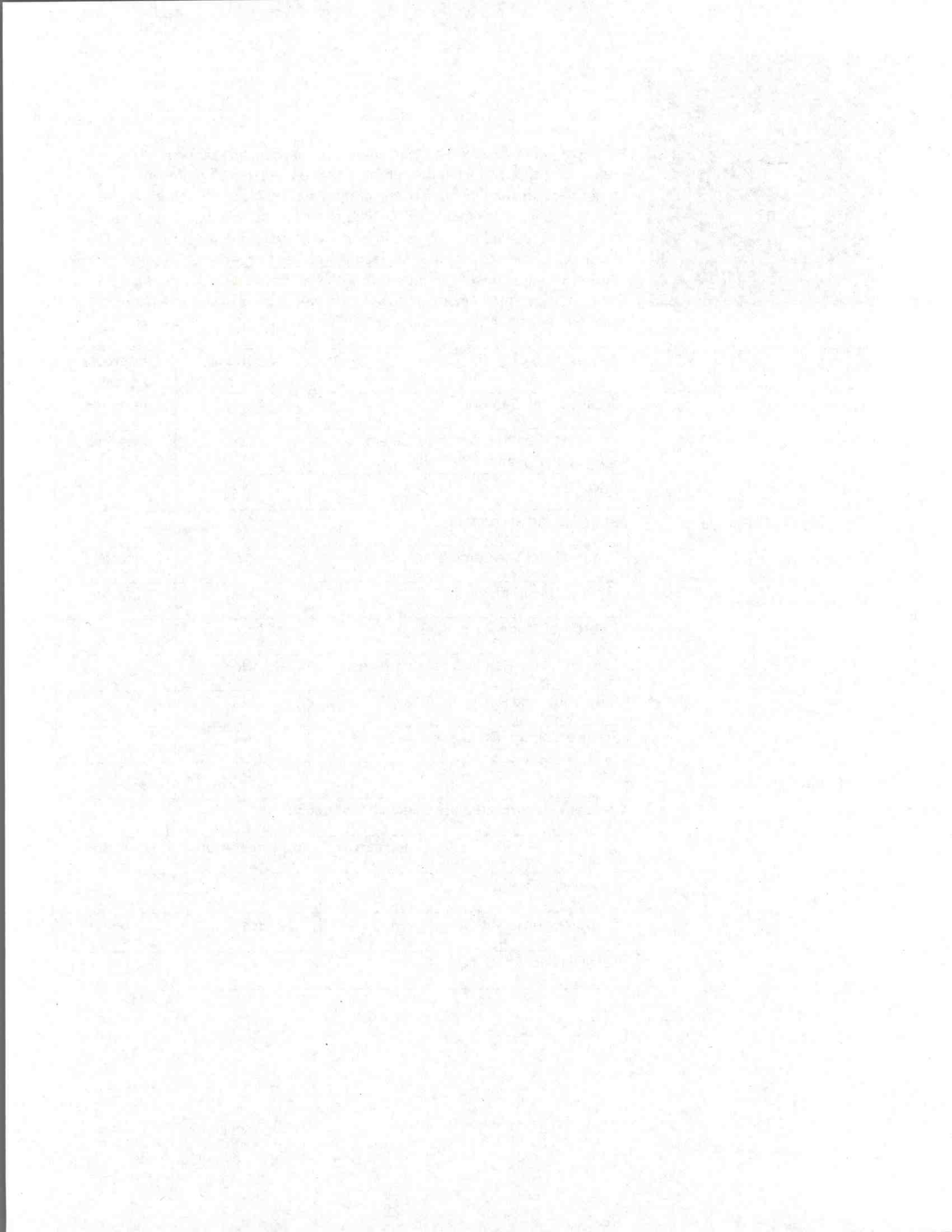
Tomoko Hirai Ulmer, Faculty
 360.867.5494
ulmert@evergreen.edu

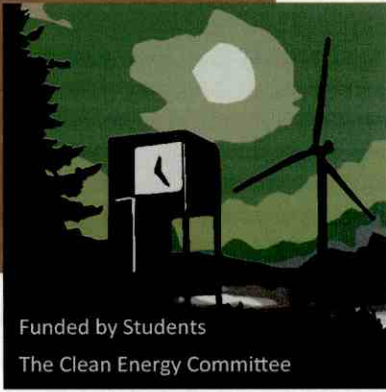
CEC Notes (for office use)

Affected Area	Approval Required	Approval Received
Faculty / Staff Sponsor	Always	Attached
Associate Vice President for Academic Budget and Financial Planning	Yes	Attached
Advising	No	
Athletics and Recreation	No	
Campus Land Use Committee	Yes	Attached
Director of Facilities	Yes	Attached
Director of Student Activities	No	
Environmental Health & Safety Officer	No	
Residential and Dining Services	No	
Science Operations Manager	No	
Tacoma	No	

Greener Categories (Please select all that apply):

	Research	Implementation	Education
Renewable Energy			
Resource Conservation		Yes	Yes
Sustainability Strategies		Yes	Yes





Funded by Students
The Clean Energy Committee

Project Title

The Japanese Tea House at Evergreen: A model of sustainable construction and operation

Sustainability (140 words or less)

This is a model teaching and learning project for sustainability. **It will teach approximately 50 students about the low-impact construction practices of traditional Japanese buildings through hands-on experience.** Substantially built from **salvaged timber** donated by the City of Olympia, the wood frame and earthen plaster teahouse will require **no electrical, plumbing, or mechanical components** and will maximize exposure to natural light and ventilation. A LEED-compliant anti-fungal sealant will be used for mold/mildew mitigation.

The project supports the CEC's mission to promote energy efficiency, sustainability education, and resource conservation. Construction and maintenance will have very low carbon impact through **minimal site preparation and landfill waste**, primary reliance on **human-powered craftsmanship**, use of **salvage timber**, and **no ongoing utility requirements**.

The *Chasitsu* will also have a **web page** and **outdoor interpretive signs** that highlight it as a **model of sustainable construction**.

Continuity (140 words or less)

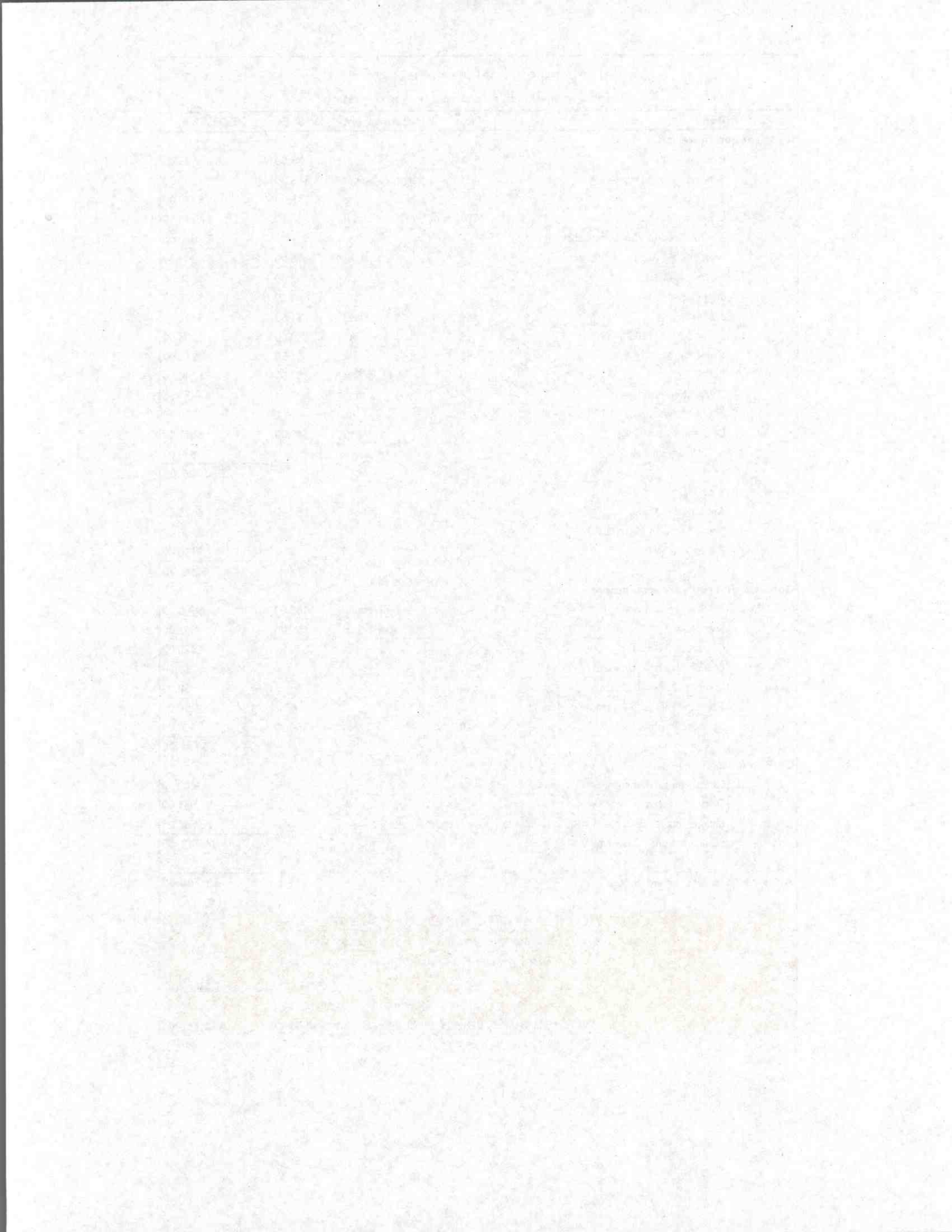
The *Chasitsu* will be a cultural and architectural treasure for Evergreen. It will serve as a place for vibrant intellectual engagement across disciplines for many years to come—supporting programs in culture, language, sustainable design, botany, horticulture, and the arts. The surrounding garden will be a peaceful place for individual contemplation or group events in keeping with the spirit of the tea house.

Once construction and initial garden improvements are completed this June, future academic programs taught by Tomoko Ulmer, Daryl Morgan and others will continue to add to the detail and heritage of the *Chasitsu* and garden.

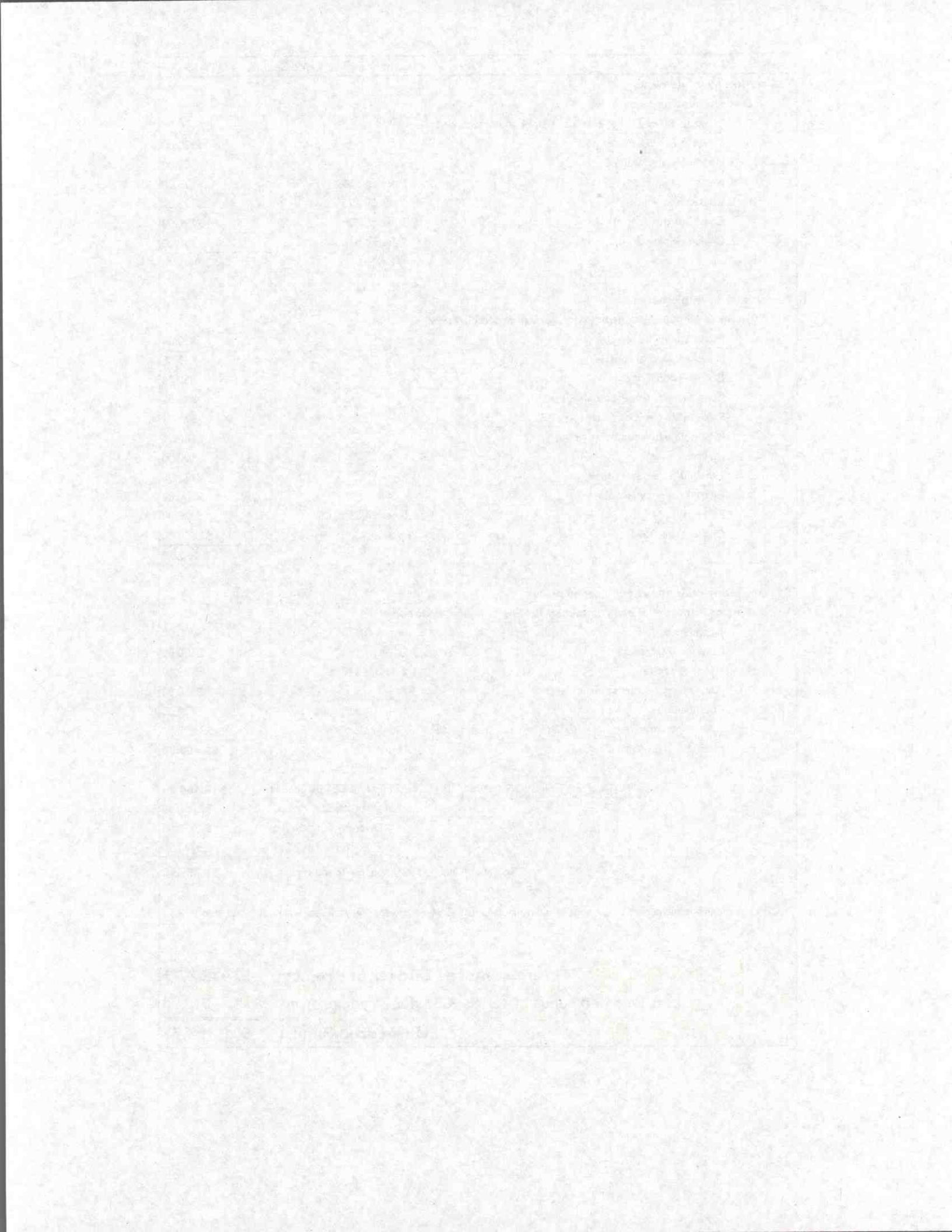
The **Visual Arts Operations Manager**, who oversees the construction project, will manage tea house operations upon completion. **Facilities Services** has **reviewed the design** and concluded that the 96-square-foot tea house will have **minimal maintenance needs**. They have committed to provide those services.

The Japanese Tea House at Evergreen:
A model of sustainable construction and operation

	Item	Qty	Measurement	Price Ea	TOTAL
Construction materials					
	Concrete Mix	175	bags	\$3.00	\$525.00
	Sonotube Forms	1	length to be cut	\$68.00	\$68.00
	1/8" J bolts	18	pcs	\$15.00	\$270.00
	Construction Lumber	2500	bd ft	\$0.50	\$1,250.00
	* Construction lumber at cost				\$5,000.00
	Bark Shingle Roofing Material	2	squares	\$600.00	\$1,200.00
	Earthen plaster	175	sq ft	\$2.00	\$350.00
	Shoji paper	5	rolls	\$40.00	\$200.00
	1/2" wire	84	lineal feet	\$1.50	\$126.00
	Turnbuckles (2200 lbs)	16	pcs	\$13.00	\$208.00
	Sheet Metal	40	sq ft	\$1.50	\$60.00
	Rebar	120	lineal feet	\$2.00	\$240.00
	Decorative Hardware		misc		\$330.00
	Misc Hardware		misc		\$200.00
	Decomposed granite	9	tons	\$68.00	\$612.00
	Delivery charge				\$90.00
					\$10,729.00
Finishing materials					
	Antifungal sealant	5	gallons	\$85.00	\$425.00
	Metal Partition Materials				\$100.00
	Danish Oil/Wax				\$160.00
					\$685.00
Construction tools and equipment					
	20' Storage container	4	month rental	\$102.00	\$408.00
	Scaffolding	7	day rental	\$9.00	\$63.00
	Concrete trowels	2	pcs	\$10.00	\$20.00
	Ladder (available on loan)				\$0.00
	Laser Level (available on loan)				\$0.00
	100' tape measure (available on loan)				\$0.00
	Japanese Ryoba saws	10	pcs	\$30.00	\$300.00
					\$791.00
Garden fixtures					
	Landscape garden stones				\$600.00
	Stone Fixtures				\$1,935.00
	Enamel interpretive panel with base for tea house--36x36 4-color*				\$3,608.00
	*Estimate from Winsor Fireform				\$6,143.00
					\$3,700.00
3-day earthen plaster workshop					
					\$3,700.00
TOTAL CONSTRUCTION COSTS FOR TEA HOUSE STRUCTURE:					\$22,048.00
Donation request from local business for 3-day earthen plaster workshop:					\$3,700.00
*Savings to project from previously donated material:					\$5,000.00
8.7% Sales Tax					\$1,161.28
Total Unsecured Construction Costs					\$14,509.28
TOTAL REQUESTED FROM CLEAN ENERGY FUND					\$14,500.00



	Item	Qty	Measurement	Price Ea	TOTAL
Tea ceremony implements					
	Diversity funding request				
	1 Chagama & Furo (large cast iron teapot and brazier set)				\$2,000.00
	2 Tetsubin (small iron tea pot)				\$350.00
	3 Hishaku (water ladle)				\$50.00
	4 Natsume (tea caddy)		5 pcs @	\$65	\$325.00
	5 Chasen (tea whisk)		5 pcs @	\$25	\$125.00
	6 Chashaku (tea scoop)		5 pcs @	\$20	\$100.00
	7 Chakin (wiping cloth)		5 pcs @	\$10	\$50.00
					\$3,000.00
Tea ceremony implements					
	items to be built by contract students-estimated cost new				
	Futaoki (lid/ladle rest)				\$20.00
	Hibashi (charcoal tongs)				\$40.00
	Gotoku (iron Tripod)				\$50.00
	Kensui (waste water container)				\$50.00
	Shikigawara (tea pot rest)				\$75.00
	Mizuashi (water container w/ lid)				\$100.00
	Hanaire (vases)				\$100.00
	Tana (lid/ladle display shelf)				\$175.00
	Furosaki byoubu (screen)				\$200.00
	Bon (tray)		5 pcs @	\$50	\$250.00
	Chawan (tea bowl)		5 pcs @	\$200	\$1,000.00
					\$2,060.00
Tea ceremony implements and garden pieces					
	Seeking institutional and community funding or in kind donation				
	Tatami Mats		4 pcs @	175	\$700.00
	Kakemono (scrolls)				\$500.00
	Thermos carafe		2 pcs @	\$40	\$80.00
	Money for Contract student materials				\$500.00
	Kou (incense)				\$20.00
	Enamel interpretive panel with base for tea house garden--36x36 4-color*				\$3,608.00
	*Estimate from Winsor Fireform				\$5,408.00
	TOTAL TEA CEREMONY IMPLEMENTS/GARDEN PIECES BUDGET				\$10,468.00
	Student-made projects:				\$2,060.00
	Diversity Fund Grant				\$2,250.00
	8.7% Sales Tax				\$731.50
	Total funds needed for implements and garden:				\$6,889.50
Students in the academic program, <i>Chanoyu</i> : Traditional Japanese Culture and the Way of Tea, will provide all labor for this project.					
Total Estimated Budget of Project:					\$34,408.77
Less Donated Funds/Materials & Student made projects:					\$13,010.00
Unsecured Funds:					\$21,398.77



**Reference for Michelle Pope
Visual Arts Operations Manager
The Evergreen State College**

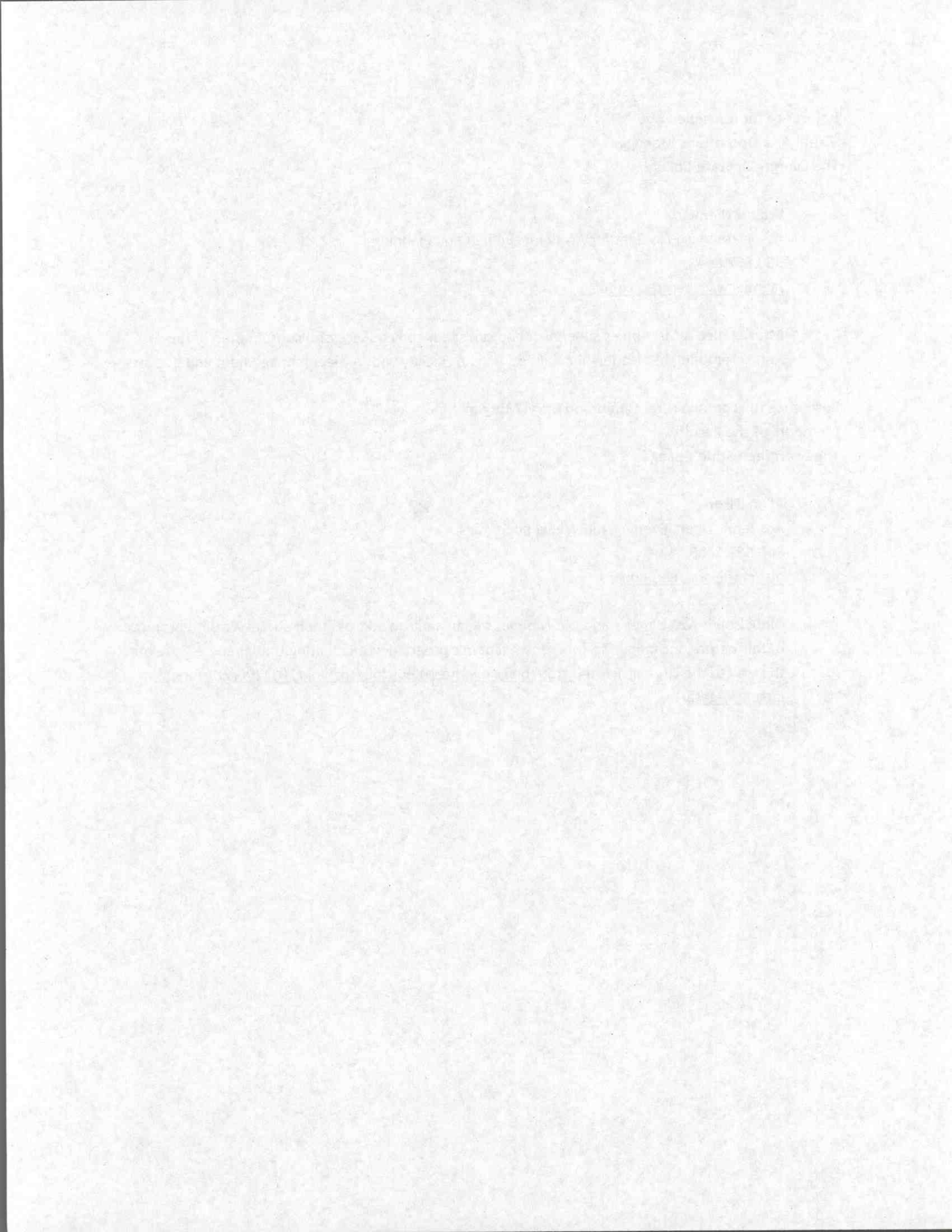
Walter Niemiec
Associate Vice President for Academic Budget and Planning
360.867.6045
niemiecw@evergreen.edu

Mr. Niemiec is Ms. Pope's supervisor and can speak to her successful coordination of the Arts Annex remodel, her leadership abilities, and her facility with project management and budgets.

**Reference for Tomoko Hirai Ulmer and Daryl Morgan
Members of the Faculty
The Evergreen State College**

Allen Olson
Academic Dean, Evening and Weekend Studies
360.867.5485
olsona@evergreen.edu

Mr. Olson is Ms. Ulmer's and Mr. Morgan's dean and can address their successes with projects of this nature, including Mr. Morgan's academic program work creating the Japanese Gate on the way to the Organic Farm (<http://blogs.evergreen.edu/photo/blog/2011/06/20/our-japanese-gate/>).



Biographies

Michelle Pope

Visual Arts Operations Manager

The Evergreen State College

Michelle Pope has worked at Evergreen since 2009. In her current role as Visual Arts Operations Manager, she oversees the college's instructional support staff, budget, and facilities for the visual arts. Michelle was instrumental in the successful remodel of the Arts Annex. She has had a longstanding commitment to sustainable building practices. From 2007 to 2009 she served as store director and then executive director of Olympia Salvage, which sold recycled building materials. In 2009, she was also education coordinator of Northwest EcoBuilding Guild in Olympia. She worked as a carpenter for three years (2004 to 2007) with Brand X Design and Construction. An accomplished metal and wood artist, Michelle earned her bachelor's degree from Evergreen in 2001.

Daryl Morgan

Member of the Faculty

The Evergreen State College

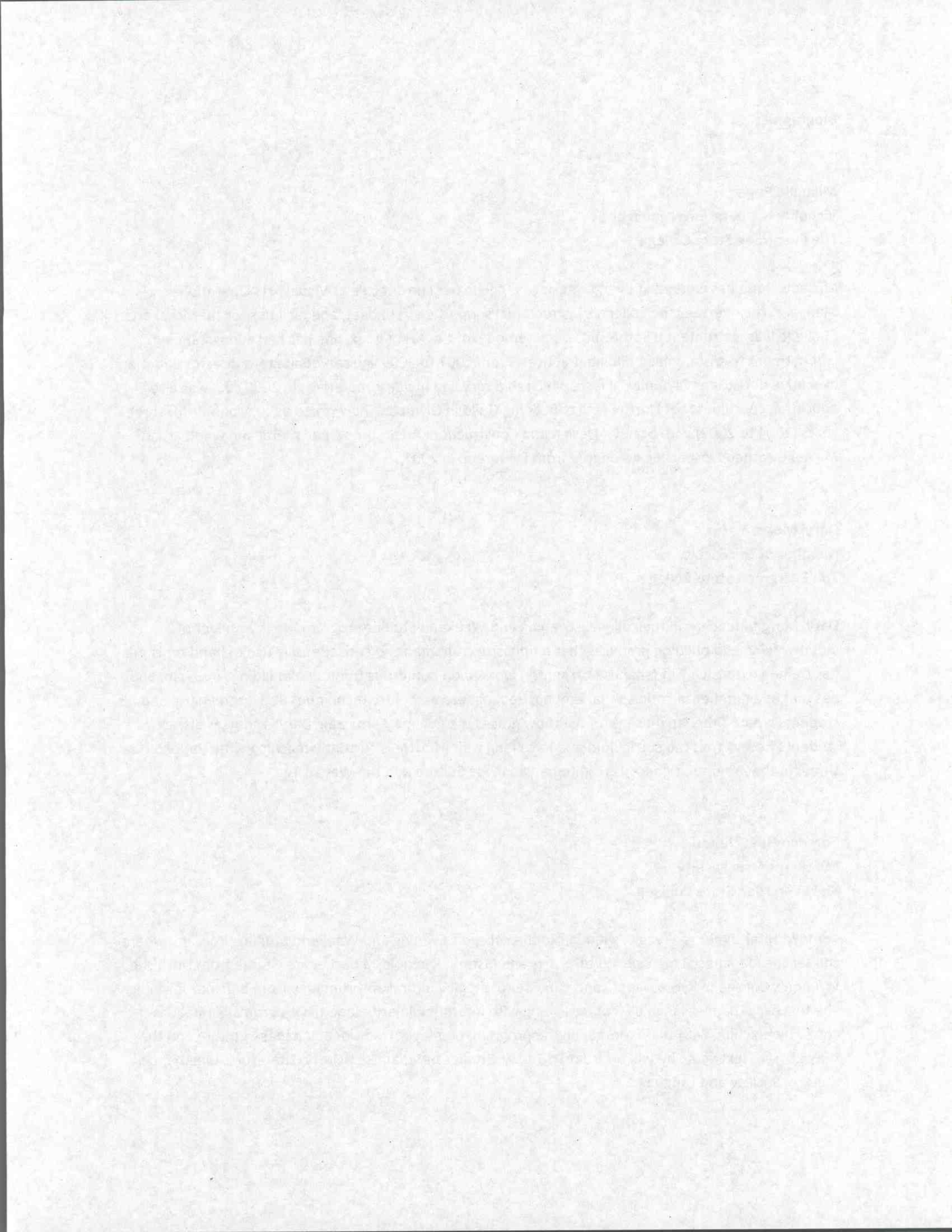
Daryl Morgan teaches in the college's Evening and Weekend Studies program. He is a master of woodworking and building practices that emphasize craftsmanship and extensive use of hand tools. He has trained extensively in Japanese carpentry, worked on numerous traditional buildings in Japan, and has taught a number of courses that emphasize Japanese carpentry techniques at Evergreen. He and his students created the Japanese Gate that now graces the Organic Farm trail. Daryl's courses attract students from across the curriculum and have long wait lists. He is currently teaching with Tomoko Hirai Ulmer in the program, *Chanoyu: Traditional Japanese Culture and the Way of Tea*.

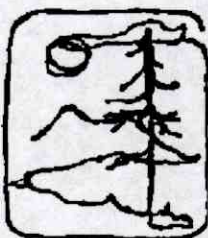
Tomoko Hirai Ulmer

Member of the Faculty

The Evergreen State College

Tomoko Hirai Ulmer is a faculty member in the college's Evening and Weekend Studies program, where she teaches Japanese language, culture, arts and history. She holds a bachelor's degree from Doshisha Women's College in Kyoto, Japan, and a master of arts in cultural anthropology from Indiana University. She teaches Japanese language courses along with interdisciplinary academic programs. Tomoko is currently teaching with Daryl Morgan in the program, *Chanoyu: Traditional Japanese Culture and the Way of Tea*. Next year she will offer Japan Today: Studies of Japanese History, Literature, Cinema, Culture, Society and Language.





The Evergreen State College
Vice President for Finance & Administration
L3200B
Olympia, Washington 98505
360-867-6500

MEMORANDUM

July 12, 2012

TO: Paul Smith and Ken Tabbutt, Co-Chairs, Campus Land Use Committee

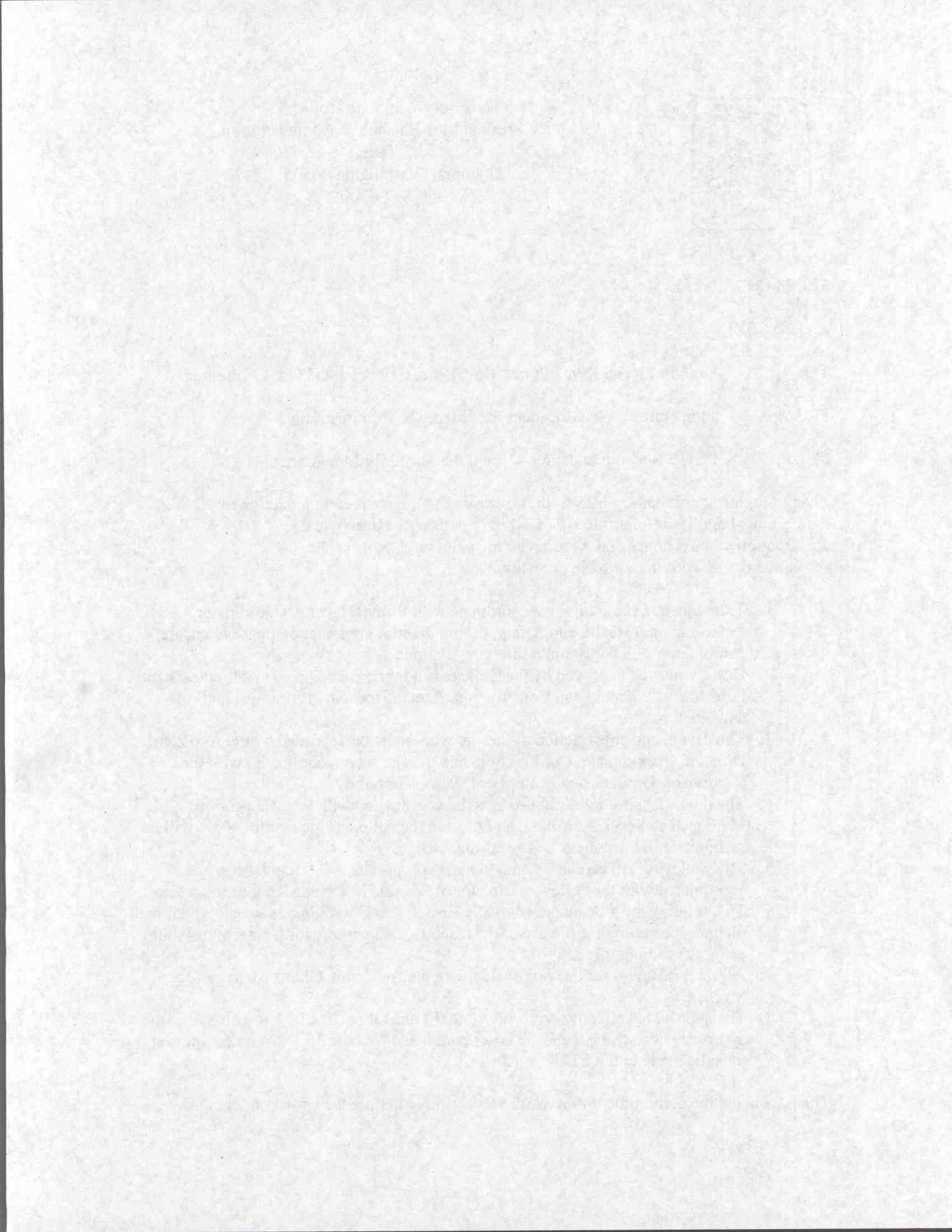
FROM: John Hurley, Vice President for Finance & Administration

SUBJECT: CLUC Recommendation #2 from the May 24th Memorandum

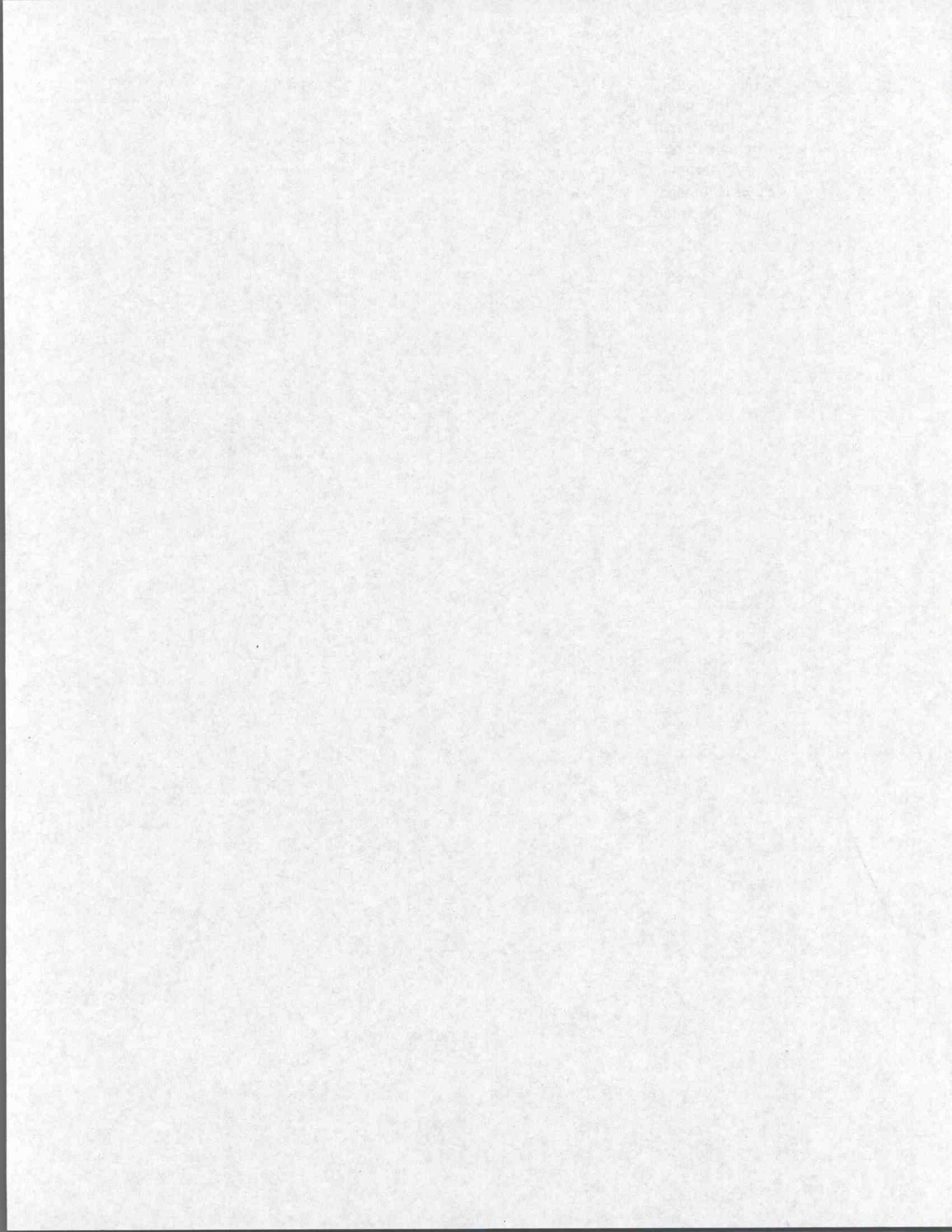
Thank you for your memo of May 24th, forwarding to me the recommendation of the Campus Land Use Committee (CLUC) in regards to the design and construction of a Teahouse and Accompanying Garden. I approve the recommendation with the following conditions:

1. The academic program must coordinate with Robyn Herring, Coordinator, Environmental Health and Safety, during the roof construction phase to ensure compliance with appropriate safety regulations.
2. Design must be approved by the College Engineer, Rich Davis, and the Assistant Director for Planning and Construction, Azeem Hoosein, prior to the start of construction.
3. The design and construction of the site work must be approved by the Assistant Director, Planning and Construction, and the site work coordinated with the Supervisor, Grounds and Motor Pool, Mark Kormondy.
4. The door locks for the teahouse must be coordinated with the Manager of Maintenance Services, Mike Drennon, and the college's locksmith. Keys will be maintained in the college's Key Issuing Office.
5. The walkway will be constructed to meet appropriate ADA regulations and coordinated with the college's Director of Access Services, Meredith Inocencio.
6. The building must be managed by the Visual Arts Operations Manager which will include scheduling for the use of the teahouse and coordinating key control with the Key Issuing Office.
7. All fund raising must be coordinated with the Academic Grants Manager, John McLain.
8. The approval is effective from July 1, 2012 until June 30, 2014 at which time the approval ends. If the teahouse is not completed by June 30, 2014 a new request must be made to the CLUC.

Thank you and the committee for the work you do in facilitating the use of our campus.



cc: CLUC
Meredith Inocencio
Azeem Hoosein
Michelle Pope
Daryl Morgan
Peter Robinson
Walter Niemiec



McLain, John

From: Smith, Paul
Sent: Tuesday, November 27, 2012 10:40 AM
To: Pope, Michelle
Cc: McLain, John
Subject: RE: Letter of support requested for teahouse/grant application

The Campus Land Use Committee approved the request for a location for a teahouse and Japanese garden at its May 21, 2012 meeting. Facilities Services is committed to the maintenance of the teahouse structure as part of the college's building inventory once it has been designed, approved for construction by appropriate staff and constructed. Facilities staff has been involved with the program participants and the participants are aware of the requirements they must meet in order to construct the teahouse.

Paul F. Smith
Director, Facilities Services
867-5135

From: Pope, Michelle
Sent: Tuesday, November 27, 2012 10:27 AM
To: Smith, Paul
Cc: McLain, John
Subject: Letter of support requested for teahouse/grant application
Importance: High

Good morning Paul,

John McLain is putting the finishing touches on a grant application with the Clean Energy Committee for funding to build Daryl Morgan's Teahouse. He needs emails from a few members of administration in support of our pursuit of this funding (see John's email to Walter below).

The grant deadline is swiftly approaching and unfortunately this email is getting to you a bit late since I was away last week for the holiday, but I'm hoping you might be able to find some time today to draw up a brief email of support on our behalf. As per John's instructions, please address it to me and 'cc' John.

Thank you,

--

Michelle Pope
Visual Arts Operations Manager
X5031

Hi Walter,

Please send Michelle an email, copying me, expressing your support for her pursuit of a clean energy grant for the Tea House "as a model of sustainable construction and operation and an unparalleled hands-on learning opportunity for students."

Michelle, do you know if we can get such an email from Paul Smith expressing approval for the Tea House from CLUC and him as Facilities director? Could you ask for that from him, also copying me? Thanks.

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McLain, John

From: Niemiec, Walter
Sent: Saturday, November 24, 2012 1:54 PM
To: Pope, Michelle
Cc: McLain, John
Subject: CEC Tea House Proposal Support

Follow Up Flag: Follow up
Flag Status: Flagged

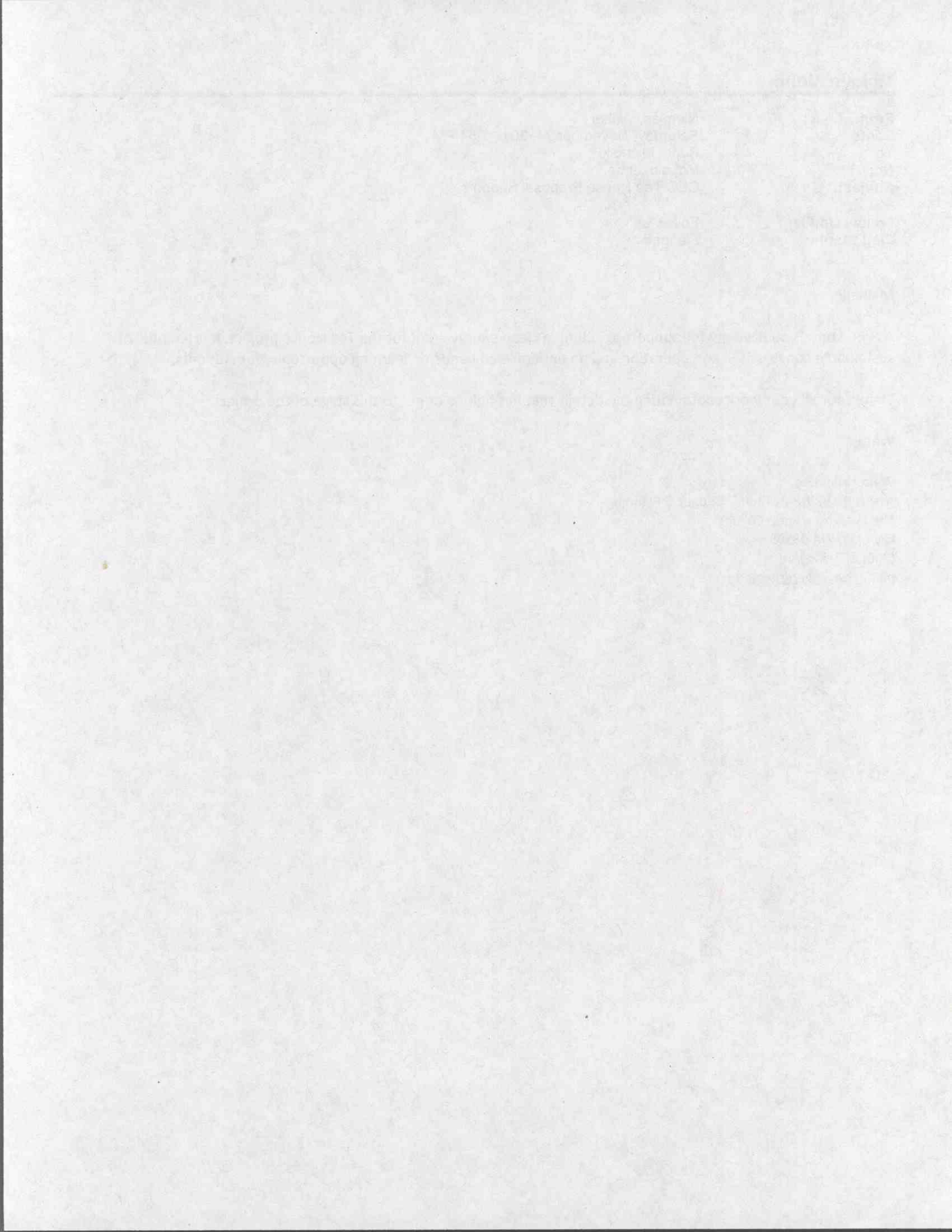
Michelle,

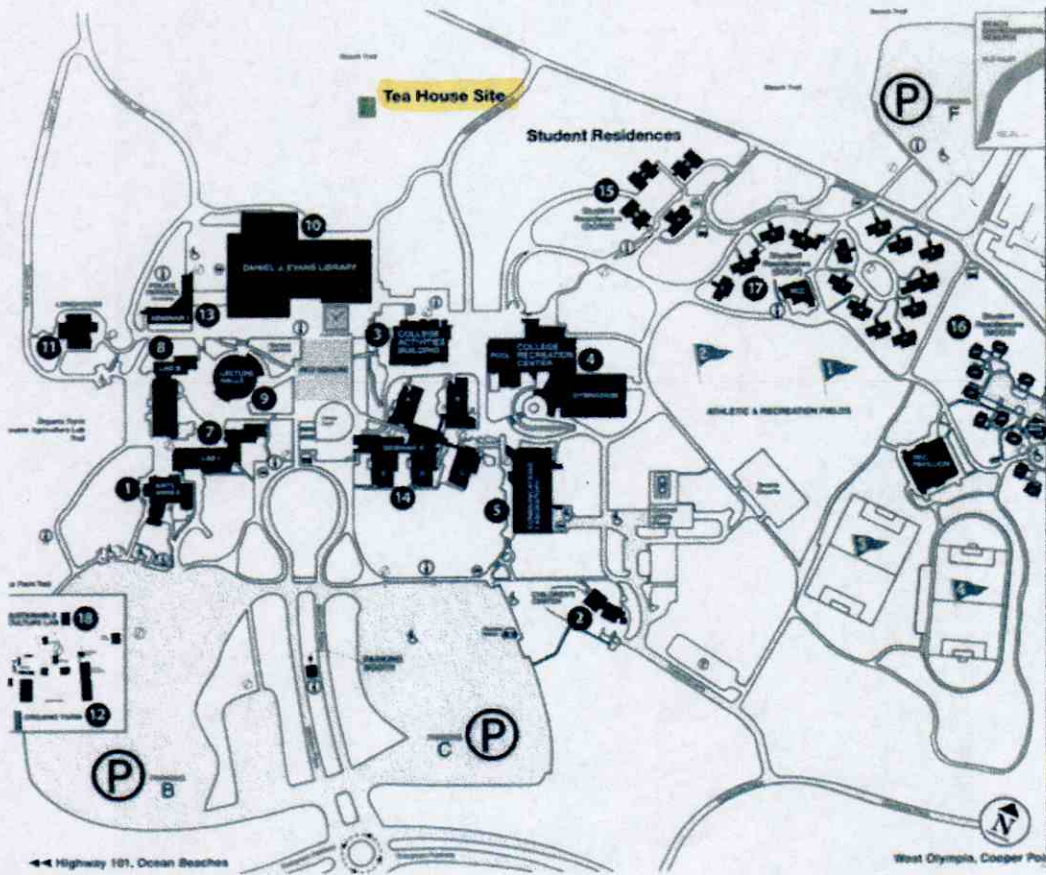
As you know, you have my full support to submit a clean energy grant for the Tea House project. It is a model of sustainable construction and operation and an unparalleled hands-on learning opportunity for students.

Thanks for all your work coordinating the details that has helped us get to this stage of the project.

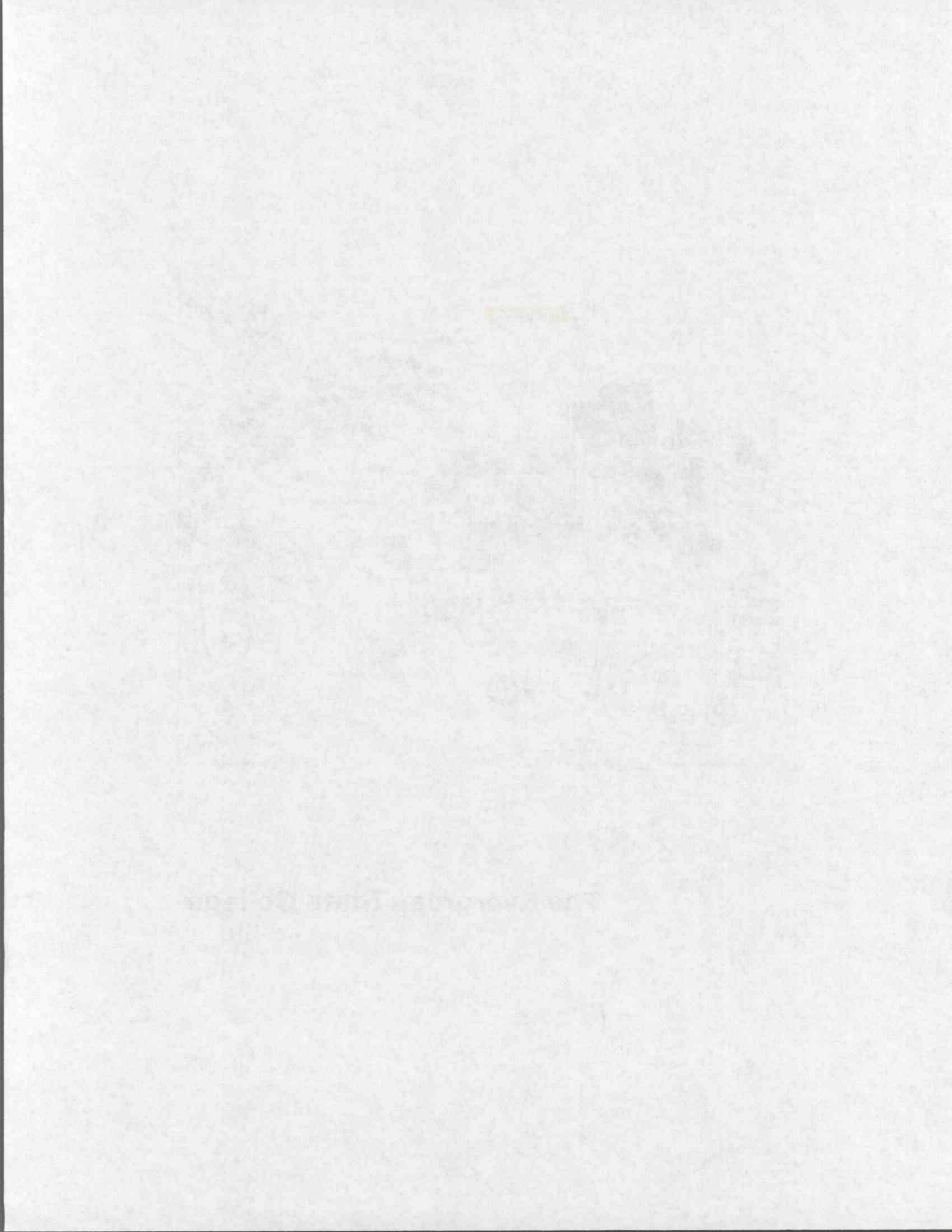
Walter

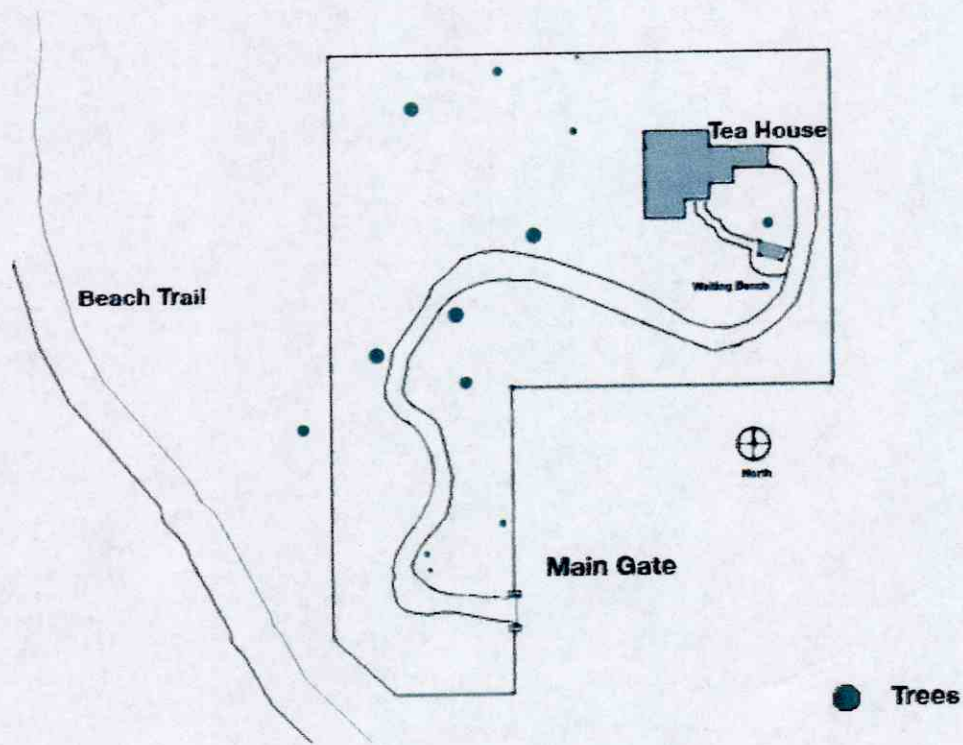
Walter Niemiec
Associate VP for Academic Budget & Planning
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niemiecw@evergreen.edu



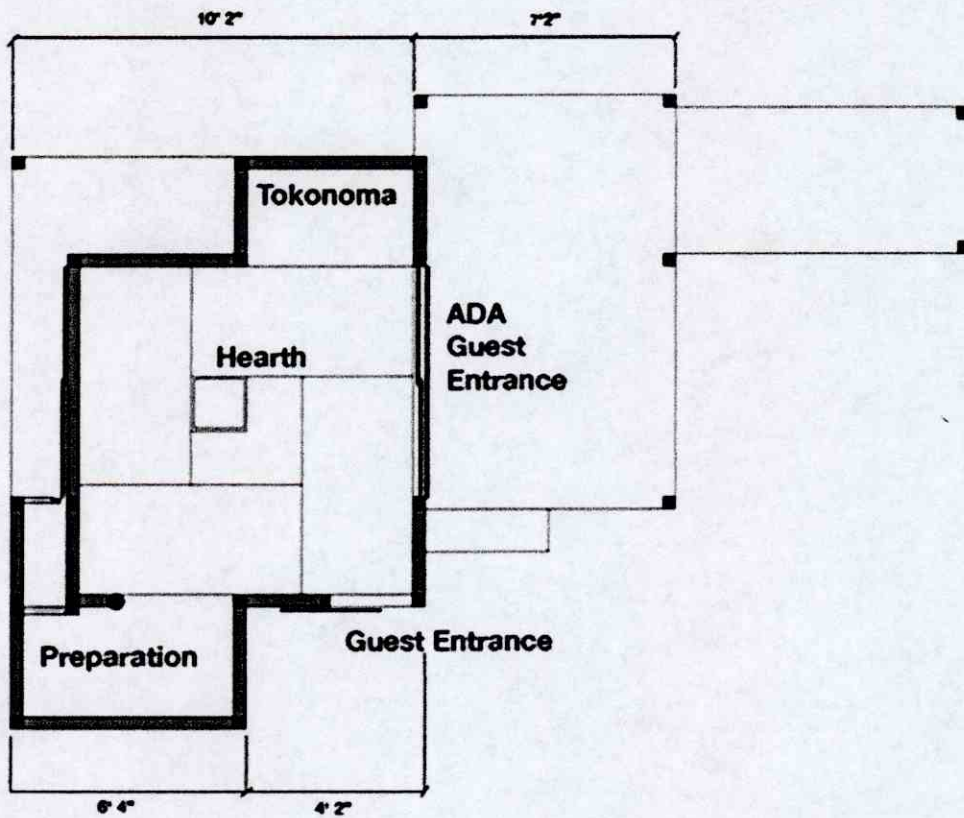


The Evergreen State College





Tea Garden & House



Floor Plan

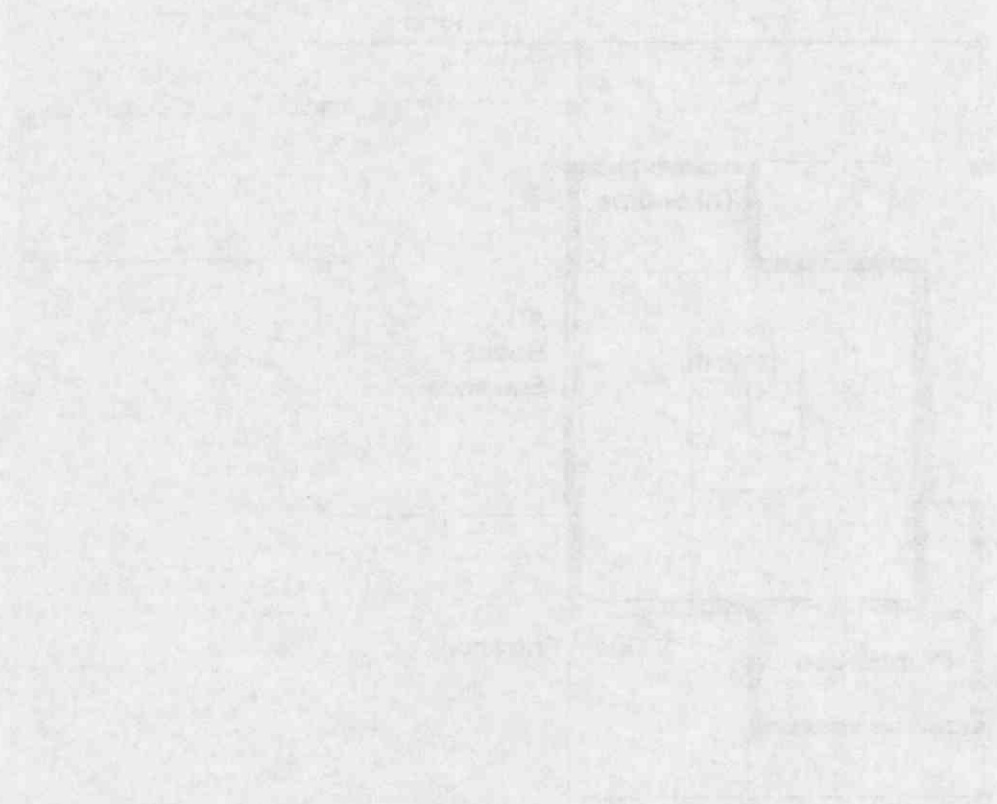


Fig. 1000

DEVELOPMENT PLAN
TRADITIONAL JAPANESE TEA GARDEN

Table of Contents

Plan Overview

Vision

Historical Perspective

Academic Relevance

Project Scope

Funding/Budget

Site Description

Landform Overlay Map

Gradient Graph

Site Plan

Design Parameters

Architectural

Landscape

Accessibility/ADA Compliance

Construction Plan

Management Focus/Scheduling Model

Duration of Work

Technology and Method

Plans and Elevations

Facility Management/Maintenance

Oversight Responsibility

Long-term Maintenance

Vision:

In the spirit of physical and intellectual adventure that defines our learning community, we propose the creation of a *Rojiniwa*, a traditional Japanese Tea Garden. The garden, and the teahouse it contains, will be a living metaphor for the natural beauty, cultural diversity, intellectual rigor, and foundational ethos that has been the hallmark of The Evergreen State College since its inception.

Historical Perspective:

Choosing to design and construct a Japanese tea garden as part of an academic program is particularly appropriate, given the college's long-standing commitment to Japanese Cultural Studies and to our faculty and student exchange programs with Miyazaki University and the University of Hyogo. Founding Faculty Richard Alexander proposed a Japanese Cultural Studies program in the college's inaugural year and the program was instituted in 1972-73. The educational legacy of Richard Alexander's original idea is programs that have been continuously important features of our academic landscape since that time.

Academic Relevance:

We see the garden not simply as a lovely place of contemplation and repose but as a place for vibrant intellectual engagement across a broad range of academic disciplines. Programs in areas as diverse as Sustainable Design, Botany/Horticulture, Sustainable Agriculture, Cultural Studies, Language Studies, and the Visual and Performing Arts will all find the Tea Garden to be a valuable teaching and learning resource. Several faculty in these areas have expressed strong support for the project and are interested in imagining ways to include the garden in their future programs.

Project Scope:

The project is estimated to require three academic years for full completion. In the near-term, the scope of the project is limited to the preparation of the site and the construction of a modest outer gate, tea house, and connecting pathway. Longer term plans call for landscape and horticultural design along with the construction of a perimeter fence, an inner gate, several garden benches, and a simple performance space. Should longer term plans be delayed, however, the site and structures as they will exist after initial construction may easily serve as a viable and quite beautiful *rojiniwa*.

Funding/Budget:

The inherent design simplicity of the Japanese Tea Garden and our commitment to treading very lightly on the land suggests a modest project budget. The college has sufficient material resources on hand to complete construction of the tea house and outer gate. These materials consist of unused timber that was donated to the college and earmarked for the Japanese Gate Project of 2009-10. These materials are currently being stored at the Arts Annex.

However, additional resources will be required if we are to utilize the garden as it is intended to be used. These items will include such things as stone lanterns, stone water basins, *tatami* mats, tea utensils, and decorative interior elements. The program's working groups have identified four external funding sources—The Japan Foundation, The Naito Family Foundation, and both the *Omotosenke* and *Urasenke* Tea Schools in Kyoto--and will be formally approaching them with regard to cash and in-kind donations. We will have also identified The President's Diversity Fund as a possible source of funding. We are working closely with the TESC Grants Office on preparing proposals to these organizations but have been advised by John McClain to delay contacting them until formal project approval has been received. Our goal is to fund the project entirely through cash and in-kind donations plus an additional 30% endowment for long-term maintenance.

Site Description:

The garden will occupy a gently sloping site of approximately 12,000 square feet in a wooded meadow that is located directly behind the library building. There are no plans for future development of the site according to the current Campus Master Plan. As has been the design imperative since the project's inception, our commitment is to avoid tampering with existing vegetation or reshaping the current landform in so far as is practical and possible. Some site clean-up and brush clearing will be necessary as well as the stabilization of several potential tree hazards. Minor pathway leveling may also be required—approximately 4" of soil removal over 60'—in order to comply with ADA requirements. The introduction of decomposed granite over compacted sand as a trail bed will also be necessary for ADA compliance.

Design Parameters:

Architecture- The design brief calls for a visually pleasing teahouse that is in harmony with its site and with its purpose. It will be a structure that uses material in imaginative and innovative ways, that requires little or no ongoing maintenance, and that can be constructed by inexperienced student builders. Our intent is not to build an absolutely authentic, 17th century *Soan*-style teahouse. We are attempting, rather, to design and build a structure that is both culturally appropriate and geographically sensitive. For security reasons, the teahouse will be lockable.

Landscape- The tea ceremony is in essence a symbolic reenactment of a simple story that embodies values that lie at the heart of Zen Buddhist and Taoist philosophy. The host represents a hermit monk living in the woods. The teahouse represents the small hut in which he lives alone with nature. The guests represent strangers who have happened upon the monk as they travel through the woods. The monk welcomes them and serves them tea, delighting in the unexpected presence of their company.

The tea garden we propose will be entirely in keeping with the spirit of the story. An unadorned outer gate through a perimeter fence invites visitors and guests onto a minimalist pathway that meanders through an essentially undisturbed meadow and wood. As they walk the pathway, guests will encounter stone lanterns, stone basins, a symbolic inner gate, the occasional wooden bench, a small bridge over a dry stone creek bed, and, finally, the simple tea house.*

Accessibility/ADA Compliance- Our intent has been and remains to not only comply with ADA accessibility standards but to meet the higher standard of Universal Accessibility where ever possible. In consultation with Meredith Inocencio, TESC's ADA Compliance Officer, and referencing the 2010 Federal ADA Standards for Accessible Design and North Carolina State University's recommendations for Accessible, Adaptable, and Universal Design, we have imagined structures and pathways that will meet or exceed these requirements.

Construction Plan:

Project Management Focus- The project requests only modest institutional financial support and will be funded primarily through normal program budget and cash and in-kind donations from non-profit organizations and regional small business. Though attention will be paid to prudent cost/expense control throughout the project, the realities of the academic year require that our management emphasis be placed primarily on timely schedule control. Consequently, the project will be managed using a combination of traditional Critical Path and Job Shop scheduling models. Careful attention will be paid to maintaining essential task precedences as well as to the efficient and timely use of human and material resources.

*The final planning, layout, and planting of the tea garden is considered future work as is the design and construction of the perimeter fence and the design and construction of the small bridge over the dry stone creek bed. These projects will be completed in subsequent phases of construction by other academic programs.

Duration of Work Estimate-

Establishing a Duration of Work Estimate for a project such as this is difficult given the almost exclusive use of unskilled labor. Construction work generally evolves from an initial Learning Phase, where workers are still perfecting the required technical skills, into a Steady State Phase, where workers are operating skillfully and efficiently. For purposes of this project, the assumption must be that workers will remain in the Learning Phase throughout the project.

Technology and Construction Method Overview- The choice is made to focus on the use of simple, straightforward technologies throughout the life of the project. These choices are anchored in the assumption of an inexperienced, non-professional student workforce under the leadership of a teaching faculty with considerable professional construction and project management expertise. The selection of traditional Japanese post-and-beam on fixed foundation as a building method is not only culturally correct, it is a time-proven and technically sound methodology that will result in a structure that meets or exceeds engineering, public safety, and universal accessibility requirements for buildings of this type.

As is characteristic of traditional Japanese building practice, all or nearly all structural fabrication will occur off-site. In this case, preliminary site work will be scheduled during the fair weather window of early Fall quarter, components fabrication will occur in the college's woodshop facility during Winter and early Spring quarters, and on-site structural assembly, installation, finish landscaping, and final clean-up will occur as good weather returns in late Spring.

Sample Definition of Phase I Work Tasks:

Site Work (winter quarter)

Grounds Preparation

Layout garden perimeter

Clear site (brush and debris)

Remove hazard trees and limbs (through Grounds Mgmt.)

Layout and shape pathway

Pad and Foundation (tea house and outer gate)

Grade and prepare pads

Excavate for piers and footings

Construct and place form and steel work for piers and footings

Pour concrete

Formwork removal and clean-up

Off-Site Work (winter and spring quarters)

Teahouse and Gate

Rough Milling/Close Milling

Teahouse joinery layout and fabrication (floor, veranda, ramp)

Teahouse joinery layout and fabrication (wall sections)

Teahouse joinery layout and fabrication (roof sections)

Teahouse joinery layout and fabrication (interior fittings)

Outer gate joinery layout and fabrication

Finish/sealant application

Final On-Site Installation and Assembly (spring quarter)

Teahouse and Gate

Transport materials to site

Erect frame and floor/teahouse

Install inter-columnar infill/teahouse

Install roofing and exterior cladding/teahouse

Install interior fittings/teahouse

Install outer gate

Complete finish/sealant application

Final Landscape Preparation (spring quarter)

Install decomposed granite over compacted sand trail bed

Install garden fittings

Final site clean-up

Turnkey

Facility Management/Maintenance:

Oversight Responsibility- The Tea Garden is seen as a whole community resource open to a wide range of programs and organizations and, at least in its initial unenclosed configuration, will be necessarily open and accessible to all. Access to the Teahouse itself, though, must be administered wisely from the outset. Management responsibility for the Teahouse is imagined as being similar to that employed by the Farm House. Key holder authority, user scheduling, user contract administration and accountability, and record-keeping should be in the hands of a responsible entity such as Scheduling/Space Management, Arts/Sciences Operations Manager, the Organic Farm, or Facilities. The particular language to be employed in the user contract should be written by those with appropriate expertise.

Maintenance- The issue of long-term maintenance is a critical one from the standpoint of both operating budget and structural integrity. In conversations with Michel George, former TESC and Smith College Director of Facilities, I have been assured that, in his experience, a properly built and sited structure presents little in the way of long-term maintenance concern. He reports that the annual maintenance requirement for the Smith College teahouse was only 8-16 man-hours per year. Smith has operated its tea house and garden since 1985 and it is similar in many respects to what we propose for TESC.

Nevertheless, we are concerned with the possibility of mold/mildew growth due to our climate. We have designed the structure to ventilate exceptionally well and it will be sited to take best advantage of sun exposure and prevailing breeze. Our plan also specifies sealing the entire structure with Fiberlock IAQ 6040, a clear, anti-fungal, low-emitting sealant suitable for wood, plaster, and concrete. The product complies with requirements for LEED EQ credit 4.2.

The experience of others with the care of similar structures demonstrates that through thoughtful design, skillful construction, and an institutional commitment to a very modest program of annual maintenance, a teahouse and garden like the one we propose can be operated in a virtually trouble-free manner for years to come.