

# Sacred Seeds at Kindle Farm School

There's magic happening  
on a hundred acres in southern Vermont...

Spring, 2011





...that will soon be felt around the world.

## THE KINDLE FARM SCHOOL MISSION

“The mission of Kindle Farm is to provide a physically and emotionally safe school environment using a combination of diverse activities, and strong supervision and guidance so students can discard old patterns and habits, and discover and practice new ways to communicate, problem solve, and learn more effectively.”

## THE SACRED SEEDS MISSION

“Sacred Seeds is a network of sanctuaries dedicated to preserving biodiversity and plant knowledge around the globe for the benefit of communities everywhere.”

## SACRED SEEDS AT KINDLE FARM SCHOOL

Genius Loci is honored to be chosen by the Kindle Farm School and New Chapter Organics to design and build the first Sacred Seeds garden sanctuary in the world built and operated by students. Working alongside students and staff, we are creating a circular community garden where threatened and endangered native herbs and medicinals will be planted and tended, supporting the Sacred Seeds mission of protecting and promoting biodiversity of plants and their associated cultures in our rapidly changing world climate.

During the winter months students will research and study recommended topics such as plant choices, horticulture's value in native cultures, sustainable landscape practices, and writing and illustrating informational signs for the gardens and self-guided tour.

Future phasing in the master plan includes a student built kiosk, composting system, stormwater management, forest gardening on the wooded portion of the hundred acre school campus, and raising heritage crops and animals.





# PROJECT GOALS

The project goal for Kindle Farm School's fall session of 2010 is to concentrate on the areas around the Onyon Farmhouse, defining entryways, renovating the foundation gardens, addressing stormwater runoff, and creating a beautiful, inviting entry to the new Sacred Seeds Community Garden as well as defining the garden area in preparation for planting in the spring of 2011.

In harmony with both the Kindle Farm School's philosophy and Sacred Seeds' mission, students will build relationships by physically working with the Kindle Farm School staff, fellow students and Genius Loci crew while learning about... sustainable landscape practices, whole systems approach to landscape design, local and global cultural connections, community, environmental issues such as biodiversity, and future career options.

While working together as a group to attain the project goals and seeing visible progress, the students will experience a sense of accomplishment, gratification and self esteem.





# SACRED SEED COMMUNITY GARDEN DESIGN

Area defined by Route 30 to the east and stone wall to the west of Valley View Vo-Tech shop and bordered by main driveway to north and grassy knoll to south.

- Create circular Sacred Seeds Community Garden in 25'x35' area, approximately 875 square feet
- Adjacent garden area to be utilized for Sacred Seeds food crops and plants demanding more "room to move"
- Pedestrian entry: Teacher and sculptor Mark Ragonese to design and create with students using natural materials gathered on site
- Work vehicle entry near Valley View Vo-Tech classroom defined
- Compost bins: Clear and grade area adjacent to existing bins, set up three open bins from recycled palettes
- Existing plantings: perennials, veggies, blueberries, raspberries, asparagus, fruit trees (4 apple/2 pear donated from New Chapter Organics)
- Review existing irrigation
- Dig out "bean hole"

Within circular garden

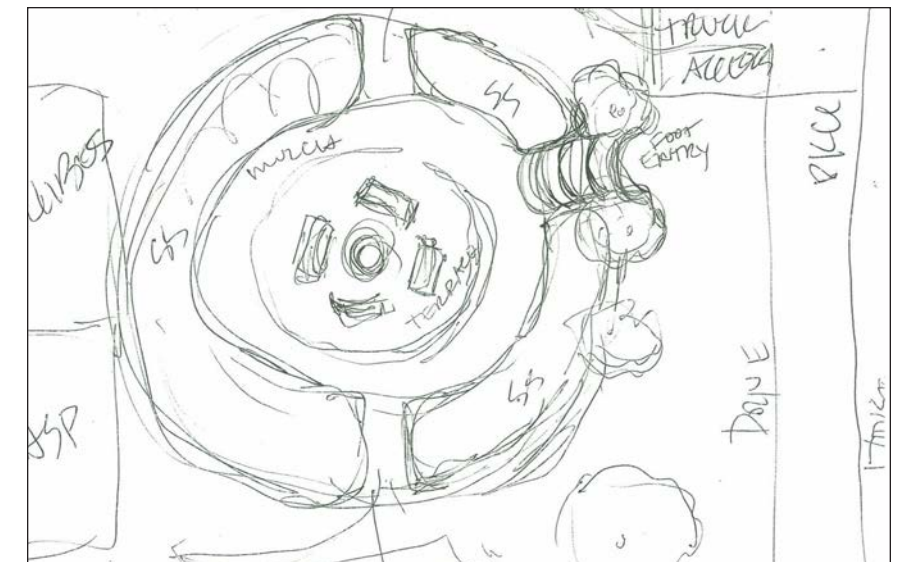
- Outdoor classroom and gathering area
- Benches (built by students)
- Picnic tables
- Fire pit
- Quiet place



Design sketch of Sacred Seeds garden entryway



Sacred Seeds garden entryway construction



Rough sketch of Sacred Seeds garden layout



# “ONYON FARMHOUSE” GARDENS

Main farmhouse and school building on Route 30

- Sign area
- Main Entry: (south side porch) define student, staff, visitor, office entry and clean up borders
- Install signs provided by HCRS
- Drive: define parking, extend paving to edge near visitor, office entry, grow edible, medicinal vines on existing trellises
- Foundation plantings: clean up existing
- Front foundation borders clean up
- ID plants and produce list with the students
- Clean up and install new foundation plantings on north side, possibly using divisions from other gardens. This would also be an ideal area for new, shade loving, woodland Sacred Seeds plants before the development of the existing woodland.
- Water catchment north and south sides: address current stormwater issues and design catchment system and/or diversion. A large amount of currently un-utilized water comes off the considerable square footage of the farmhouse roof along with groundwater. At present, downspouts empty wasted water onto lawn and undeveloped areas, and there is consistent flooding in the basement. Curtain or french drain is currently in the plans to be installed on south side of building foundation to alleviate flooding.



South side porch before renovation



Travis putting finishing touches on his stonework



Billy and Marilyn renovating foundation borders



Travis and Zach planting sign area



# RELATED PROJECTS & TASKS

## LABOR

- Kindle Farm students, paid by Kindle Farm School
- Kindle Farm School staff
- Design/build crew: Cyndy Fine of Genius Loci and crew gardener
- Kindle Farm School work party: organize tasks appropriate for all ages

## TIME FRAME FOR DESIGN GOALS

2010 Fall Session: Prioritize for open house on October 8th, 2010 by concentrating on entry experience, Route 30 sign area, new entry to Sacred Seeds Community Garden, sheet mulch Sacred Seeds garden circle.

- Every Wednesday
- September 15, 2010-November 15, 2010
- 10 AM-2 PM (lunch with KFS students and staff)
- 1 Staff and...
- 2 students 10:30-12
- 2 students 12:30-2
- Students chosen by KFS staff
- 2011 season: Wednesdays 11:30- 3:30

## MAINTENANCE PLAN

Students scheduled and overseen by KFS staff

Mulch, weed, and water gardens as needed

Collect and store seeds

Maintain and update signs and kiosk self guided tour information

Maintain turning and rotating composting bins and moving kitchen scraps to appropriate bins system





# RELATED PROJECTS & TASKS

## FACILITATORS/SPEAKERS/TEACHERS/VISITORS

Professionals and teachers from a variety of fields to speak or work with students on Sacred Seeds related subjects and tasks.

- David Onyon: history, farming
- Mark Ragonese: interactive artist, teacher experienced with population
- Conway School of Landscape Design: possible student projects, career choices
- Dave Jacke, Jono Neiger: forest garden, permaculture
- Bill Latrell: naturalist, ecologist, mountain man
- Sara Newmark: New Chapter Organics
- Charlie Noss: recycled concrete
- Intervale Native American Sacred Seeds group

## SACRED SEEDS KIOSK

- Goal to be in place by Open House
- Student built with Earl's supervision using farm lumber and other materials on site when possible
- Take advantage of high profile location
- Path to Sacred Seeds Community Garden
- Self guided tour
- Sacred Seeds info
- Sell student made trellises, seed pots

## COMMUNITY OUTREACH

- Surrounding community work day. Interested friends and community members willing to donate time, labor, and expertise. Kindle farm School and Genius Loci to organize appropriate tasks.
- Spread the word through data base/e-mail/flyers
- Open House: Sara Newmark set up information table
- Kiosk self guided tours
- Signs throughout campus gardens



Mark Ragonese, visiting teacher & sculptor



Charlie Noss & Alec Goldschmid donating their time and equipment



Drew lending a hand with sheet mulching



Students creating stone sculpture



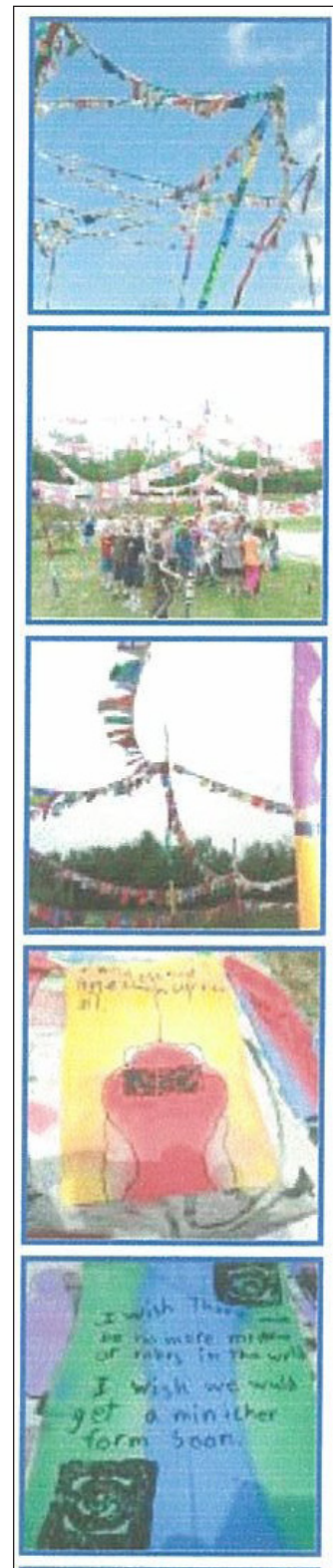
# RELATED PROJECTS & TASKS

## WINTER SESSION PROJECT RELATED IDEAS

- Science/environment: Research Sacred Seeds plants and connected cultures, and endangered or threatened plants appropriate for KFS horticultural zone
- Vo-tech: Design and build kiosk, garden information signs with HCRS, build benches, tables, trellises, cold frames for south side of Valley View building to start seedlings
- Art: Signs for plant info-younger kids illustrate/self guided tours/kiosk (could be interactive with plants highlighting the seven senses), ceramic seed pots (native culture seed saving) with Mark Ragonese, tiles, garden paving stones, “flags” for perimeter of Sacred Seeds Community Garden and kiosk
- Cultural studies: Native cultures’ use of plants for food, medicine, baskets, structures, etc. or... the gardens as “grocery store, pharmacy and hardware store”

## MATERIALS ON SITE

- Lumber
- Stone
- Bricks
- Recycled concrete
- Student produced tiles/mosaics



Examples of flags



Verbena hastata, one of the native medicinal plants existing on site



# FUTURE PROJECT PHASING

- Depending on accomplishing the 2010 fall session goals, the main goal for the spring of 2011 is to plant the Sacred Seed Community Garden and begin using the interior circular space as an outdoor classroom, gathering, picnicking and fire circle area for students, staff and visitors.
- Incorporate garden maintenance plan into curriculum
- Once the first stage is established, the forest gardening phase can be outlined and organized for implementation and budgeting.
- Raise heritage/heirloom breed animals
- Address stormwater issue and catchment system
- Build compost bins, organize existing bins and set up system for student and staff use



Organize and implement composting system



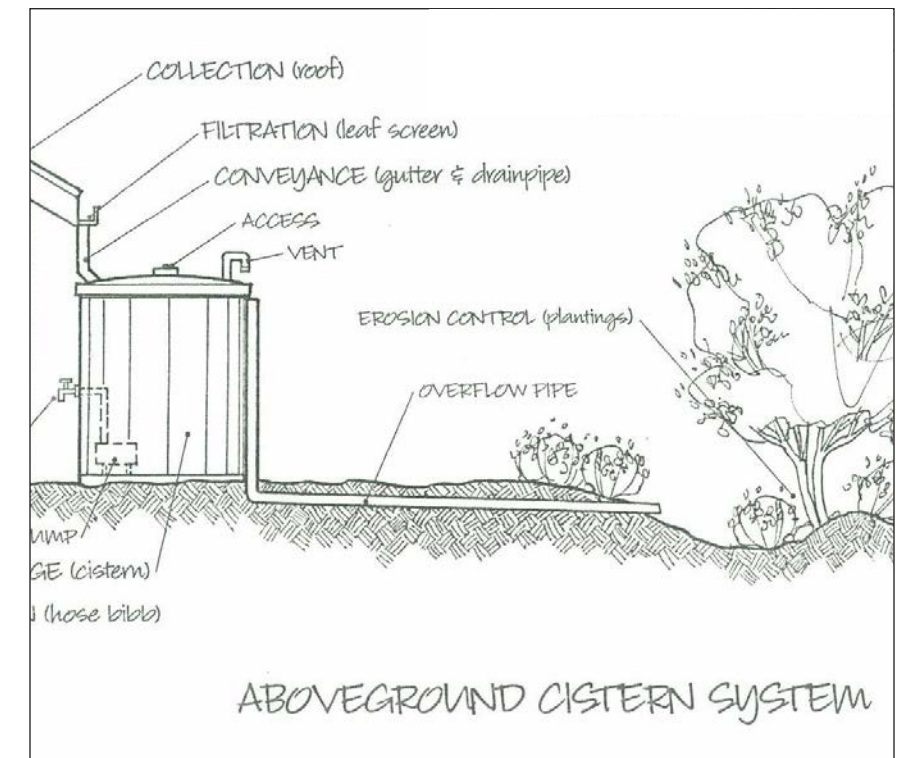
Stormwater issues to be addressed

## THE FUTURE...

Right now, the Kindle Farm School students and their teachers are researching and developing a plant list for the Sacred Seeds garden. Cross referencing data including native plants used by Abenaki and other indigenous peoples for a variety of applications, and appropriate horticultural requirements, they will compile the information necessary to begin buying or growing the plants for the garden, farm and surrounding woodlands. The Sacred Seeds foundation garden at Kindle Farm School will utilize the whole 100 acre campus to help promote biodiversity on the farm, and in turn globally, preserving important plants and their associated cultures.



Renovate and plant north side with woodland natives



Stormwater capture option



## RELATED LINKS

KINDLE FARM SCHOOL  
[www.kindlefarm.org](http://www.kindlefarm.org)

NEW CHAPTER ORGANICS  
[www.newchapter.com/sustainability/philanthropy](http://www.newchapter.com/sustainability/philanthropy)

SACRED SEEDS  
[www.sacredseedssanctuary.org](http://www.sacredseedssanctuary.org)  
[www.sacredseedssanctuary.org/knowledge-base/books](http://www.sacredseedssanctuary.org/knowledge-base/books)

NATIVE AMERICAN TRIBES OF VERMONT & LANGUAGES  
[www.native-languages.org/vermont.htm](http://www.native-languages.org/vermont.htm)

ABENAKI NATION  
[www.abenakination.org/front.html](http://www.abenakination.org/front.html)

NATIVE AMERICANS IN PRE-REVOLUTIONARY LIFE  
<http://community.middlebury.edu>

VERMONT TRIBES/ACCESS GENEALOGY  
[www.accessgenealogy.com/native/vermont](http://www.accessgenealogy.com/native/vermont)

VERMONT FOLK LIFE CENTER  
[vermontfolklifecenter.org](http://vermontfolklifecenter.org)  
28 minute video "Abenaki of Vermont: A Living Culture"  
Also check out their new Cultural Sustainability Institute and educational resources!

GENIUS LOCI, SUSTAINABLE LANDSCAPE DESIGN  
[geniuslocidesign.com](http://geniuslocidesign.com)





# SACRED SEEDS COMMUNITY GARDEN at KINDLE FARM SCHOOL

Addendum to Master Plan  
Garden Design and Plant Schedule

February, 2012



Student made garden entry sign



Bees are already busy working existing native *Monarda fistulosa* (bee balm) on Kindle Farm



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Garden looking due east with surrounding vegetable, fruit and berry plantings

## The following excerpt from the Kindle Farm School

November, 2011 newsletter written by Drew Grading, Assistant Director, perfectly describes the synchronization of students, staff and landscape designer in creating the Sacred Seeds Community Garden.

The school's mission is realized in every aspect; from the math and science of site assessment, garden orientation, soil analysis, determining square footage and plant numbers, the research of former cultures and their use of native plants, and finally the physical labor of composting, mulching, planting and maintaining the garden. The students, staff and designer also collaborated on the design and construction of the kiosk (from lumber cut and milled on farm property) and the stone benches surrounding the fire pit, also constructed from material found on site.



Vaccinium angustifolium (lowbush blueberry)



## “THE MAGIC OF SACRED SEEDS” by Drew Grading

I walk into a classroom to witness a discussion between a teacher and 9 students. They are talking about Sacred Seeds and I have come in the middle of their conversation. I hear them defining the word sacred and making a plan to study seeds. I had to look up the word myself. “sa•cred: regarded with reverence.” As I read the definition I have a sense of pride to be working at a school discussing a project that connects science to the ideas of reverence for seeds and plant ecosystems.

Sacred Seeds is a network of sanctuaries that preserve biodiversity and plant knowledge. And we, at Kindle Farm, are one of thirteen foundational gardens that contain locally important plants for medicinal uses (our pharmacy), food (our grocery), and craft value (our hardware store).

Kindle Farm has just finished phase one of our Sacred Seeds garden. A beautifully designed archway leads into a circular garden that is planted with 18 species of plants. Plants the students have researched and are native to the area; plants that were used by local people; plants they have purchased; plants they have tended.

Now we have a living classroom in which to study ... There is evidence that the Sacred Seeds garden is cross pollinating (pun intended) across our programming. As one science class looks at the magic of seeds and germination, another explores the variables that affect growth. A social studies class takes a field trip to explore the journals of  
continued...



Students and staff planting and tidying up sheet mulching



# THE MAGIC OF SACRED SEEDS”

continued...

Colonists and examines the historical uses of plants in their garden. The carpentry class has made a kiosk to display school and garden information while math class helps us figure out the square feet of our circle beds! Our Multiage Class teacher just wrote this in a school bulletin:

“As students grow their observation, questioning and recording skills in science, they have been exploring the world of plants this quarter. The school’s fruit trees and Sacred Seeds Garden have both become an onsite laboratory for using the senses as well as scientific tools like hand lenses and microscopes. Through this work students are learning to be careful scientists alongside content knowledge connected to cellular biology.”

Ahh, that is music to my ears!

We owe special thanks to Missouri Botanical Garden, NewChapter Organics and the folks at Genus Loci for supporting this project and providing an amazing amount of resources, technical assistance and vision. As Fall of 2011 sets in on the Farm and we look back at a year’s worth of effort and accomplishment, it is clear we have learned a great deal and built something beautiful and profound.

We are in process of discovery -- How does our school utilize this vast resource? How does it fit in our curricula over time? Are there more phases? Who creates the self-guided tour? As with so much in learning, there is no end; there is simply exploration and anticipation for what comes next. Stay tuned . . .



Student and staff look over garden layout



New growth on Verbena hastate



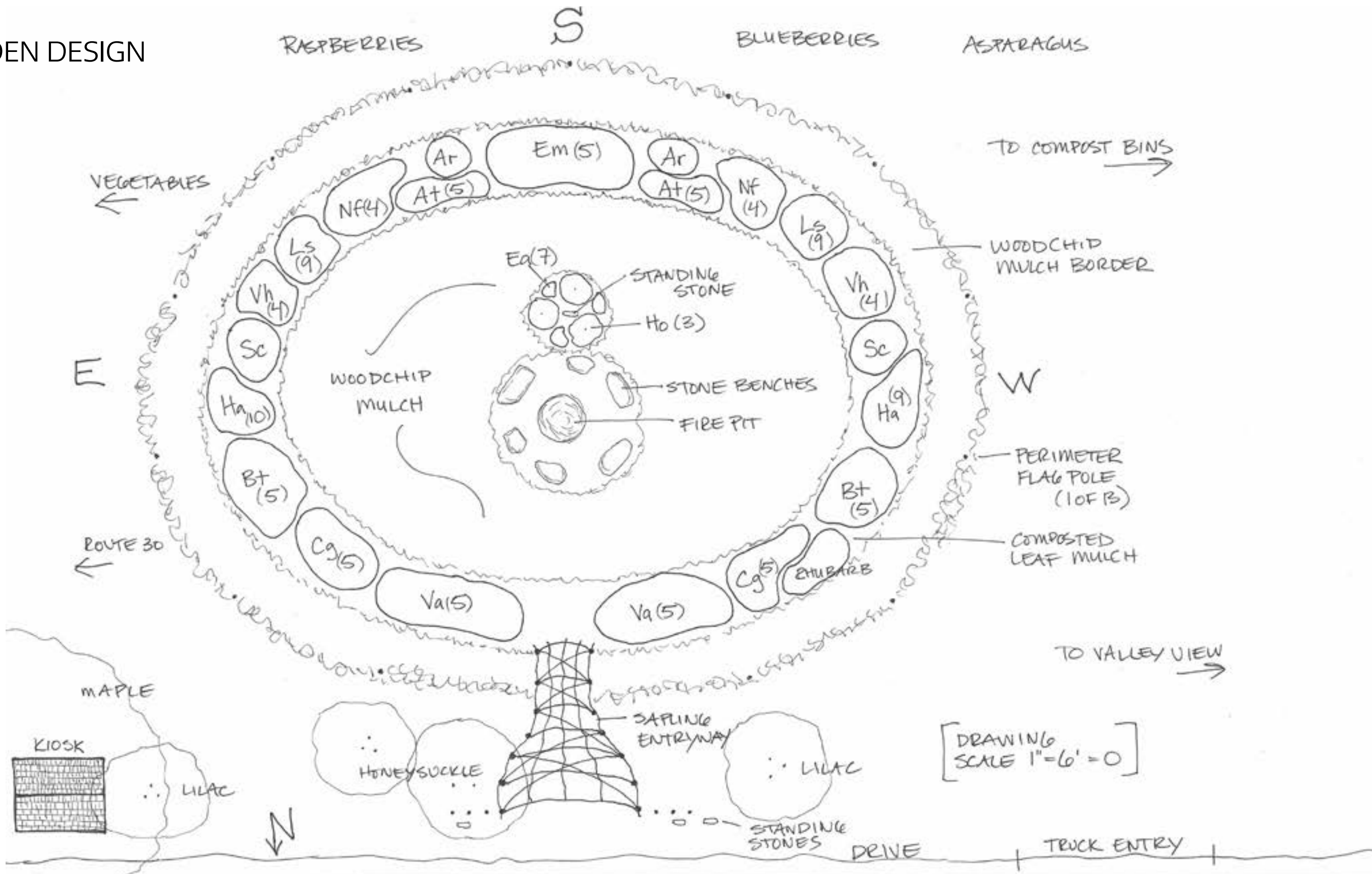
Spreading composted leaf mulch in the garden



Group discussion on planting techniques



## GARDEN DESIGN





# SACRED SEEDS COMMUNITY GARDEN PLANT SCHEDULE

GENUS & SPECIES	COMMON NAME	PLANT MARKER	H x W	# PLANTED	RESEACHER
Vaccinium angustifolium	lowbush blueberry	Va	8"-18" x 18"-36"	10	Lisa
Chelone glabra	turtlehead	Cg	36" x 24"	10	Cyndy
Baptisia tinctoria	wild indigo	Bt	24"-36" x 24"	10	Cyndy
Sambucus canadensis	elderberry	Sc	6-12' tall	2	Cyndy
Heuchera americana	coral bells	Ha	18" x 18"	19	Cyndy
Verbena hastate	blue vervaine	Vh	24"-36" x 24"	8	Shannon
Liatris spicata	blazing star	Ls	24"-36" x 18"	18	Cyndy
Nepeta faassennii	catmint	Nf	36" x 30"	8	Andy
Actaea racemosa	black cohosh	Ar	48"-72" x 48"	2	Cyndy
Asclepias tuberosa	milkweed	At	24"-36" x 24"	10	Ryan
Eupatorium maculatum	joe pye weed	Em	48"-84" x 24"	5	Cyndy
Echinacea angustifolia	coneflower	Ea	32"-36" x 24"	7	Ashley
Hyssopus officinalis	hyssop	Ho	18"-24" x 24"	3	Ashley

Many of the plants researched by students are culturally suited to shade or semi-shade environments and will be incorporated into the next phase of the Sacred Seeds project on Kindle Farm. These woodland natives will be planted into shaded areas of the farmhouse foundation gardens as well as in the forest that covers the majority of the farm’s one hundred acres.



# PLANT USES

- *Vaccinium angustifolium*: berries edible for humans and wildlife; used as anti-diabetic, one of the best sources of flavanoids
- *Chelone glabra*: tonic for liver & digestive systems, antidepressant, laxative, treats gallstones with jaundice, colic, anorexia, and chronic liver disease
- *Baptisia tinctoria*: antiseptic, stimulates immune system, an antiemetic, astringent, stimulant, lowers fever, laxative, used to treat colic dysentery, nausea, skin problems, sores & wounds, colitis
- *Sambucus canadensis*: berries used for jellies, preserves, pies, wine; bark remedy for fever, leaves and inner bark used for insecticide and dye; hollowed out stems used for spouts, musical instruments and toys
- *Heuchera Americana*: controls bleeding & discharge, externally as eyewash, wounds, sores, sore throat, snake bites, swellings. Used as mordant for dyes producing new colors from organic dye as well as aiding in setting
- *Verbena hastate*: antispasmodic, alterative and to calm nervous disorders such as insomnia, PMS & menopausal anxiety, stomach & menstrual cramps, externally for muscle cramps and possibly anti-tumor and heart related activity
- *Liatris spicata*: diuretic & an emmenagogue, antibacterial, diaphoretic, a gargle for sore throat, internally to treat kidney disease and gonorrhea
- *Nepeta faassenii*: *Nepeta cataria* used as an emmenagogue, sedative for nervous disorders & insomnia, expels flatulence, treats cramps, headaches, colds, fevers, colic, & teething, diaphoretic, externally for arthritis, wounds, hemorrhoids



*Liatris spicata*



*Asclepias tuberosa*



*Hyssopus officinalis*

- *Actaea racemosa*: pain reliever, emmenagogue, antispasmodic, oxytocic, alterative, diuretic, diaphoretic and to treat muscular pain, hormonal depression, control coughing, stimulate uterus, a nervous & arterial sedative
- *Asclepias tuberosa*: antispasmodic, expectorant, used to treat pleurisy, painful breathing due to lung condition with fever but little or no sweat, slows rapid pulse, some estrogenic activity, wounds, bruises, arthritis
- *Eupatorium maculatum*: boneset, the common name for the plant, based on the previous usage of one species, *Eupatorium perfoliatum*, as an herbal medicine used to treat broken bones; may also come from its use to treat dengue fever, which was also called breakbone fever because of the pain that it caused. Boneset, although poisonous to humans and grazing livestock, has been used in folk medicine to excrete excess uric acid which causes gout. Side effects include muscular tremors, weakness, and constipation, overdoses may be deadly.
- *Echinacea augustifolia*: alterative, promotes immune function, treats all disease caused by impurity of blood, antibacterial & antiviral, prevent premature aging/UV damage to skin and externally for herpes, acne & psoriasis
- *Hyssopus officinalis*: stimulant herb, antiviral (herpes, flu), carminative, tonic to digestive,, mucilaginous, urinary, nervous, bronchial & digestive systems, congestion, blood regulator, emmenagogue, externally for cuts & bruises, essential oil can be fatal

Information taken from Medicinal Plants Native to New England compiled by Diana Anderson who warns, "Please do not harvest these plants from the wild as many are endangered species and misidentification can be fatal. This is not a guide for self-treatment. Herbs are powerful, consult an expert before use." Other references used: USDA Plant data base, Lady Bird Johnson Wildlife Center plant database, Wikipedia.



WHAT’S NEXT...

In the spring of 2012 we look forward to a formal commemoration of the garden, honoring and sustaining the native cultures who began this journey centuries before we planted our seeds.

For more information about this international project please visit: <http://www.sacredseedsanctuary.org/>



Edge of newly planted garden and student designed and built kiosk



Kiosk information about Sacred Seeds and the garden



Fire pit and surrounding stone benches for gatherings or quiet time



Vegetable and annual plantings east of the garden