



Pollinators Native Garden



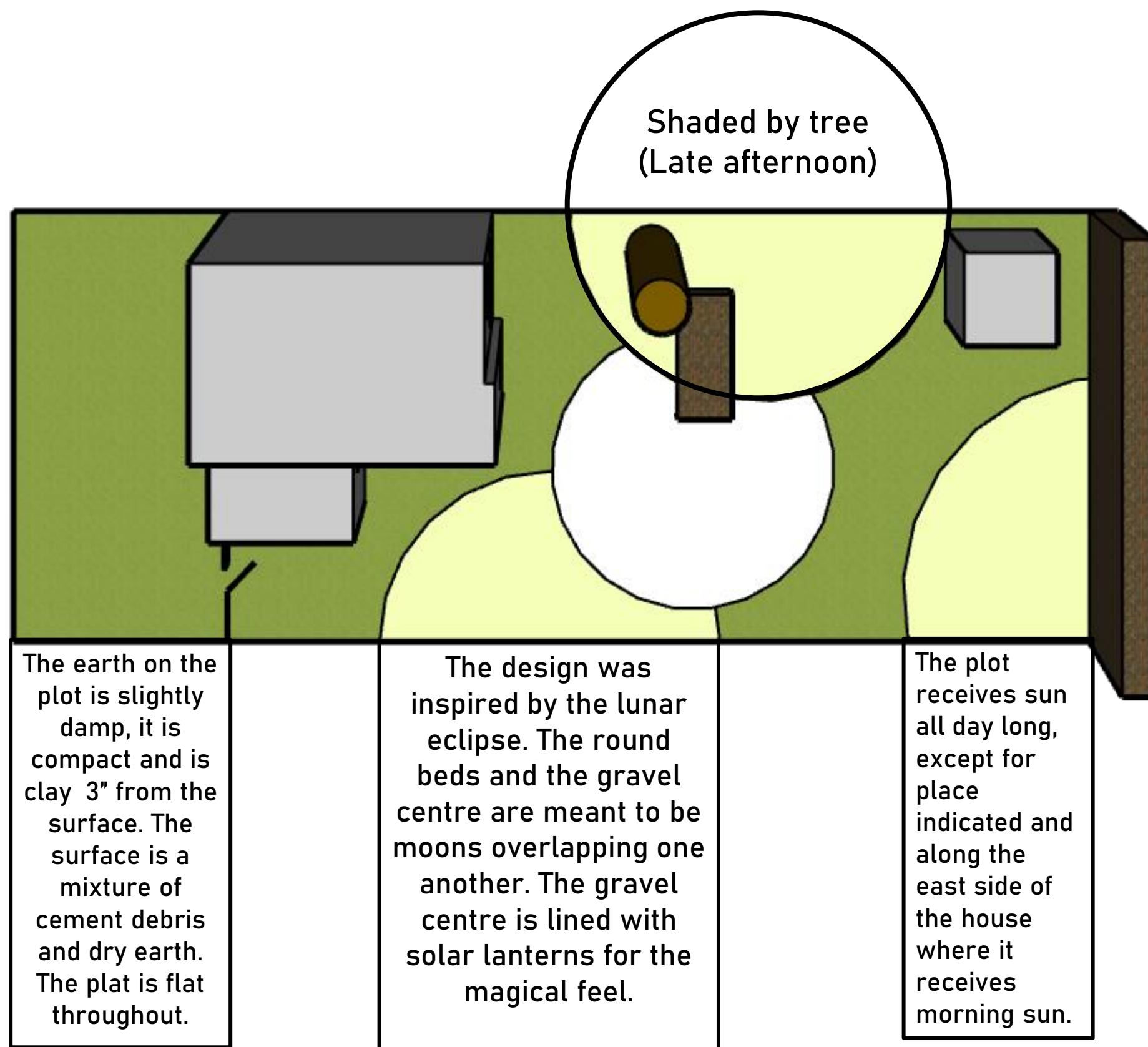
Nyamupingidza, Anesu
Garden Design Project



11/23



Analysis and Vision



The design is a backyard native garden, and the objective is to create one that is an effective pollinator habitat in Germantown, Pa.

It follows the concept of a new perennial garden and has all the charms of a meadow. The overall intent is to emulate a meadow/ prairie fusion in a residential setting.

Case Study

Notes:

The meadow presented echoes the vision for the Pollinator's Native Garden, from the plant list to its sustainability efforts.

Bowman's Hill focuses on native plants, and among the flowers in the meadow are butterfly weed, goldenrods, mountain mint and wild bergamot which will be included in my plant list as well.

The sustainability benefits of the meadow are as follows:

- Provides air and water purification.
- Results in soil stabilisation.
- Aids in the renewal of ground water supplies.
- Is low maintenance.
- Provides a habitat to pollinators and small mammals (The main sustainability goal for the Pollinator's Native Garden.)



Location: *New Hope, Bucks County PA*

Architect: *Bowman's team*

Title: ***Meadow, Bowman's Hill Wildflower Preserve***

Image Attribute : *bhwp.org*

Precedent 1

Garden Design:
HORT 2221 Fall 2023

Anesu Nyamupingidza

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Scale
1/2" : 1'

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Case Study



Location: *Hauser & Wirth Somerset, Bruton, UK*

Architect: *Piet Oudolf*

Title: ***Oudolf Field***

Image Attribute : *houseandgarden.co.uk*

Notes:

This Prairie planting style or New Perennialism allows for plants to be plants... wild, free, ugly and beautiful all at the same time. It is loose, informal and very much so alluring which is what the Pollinator's Native Garden will strive to be, a haven for both the resident and pollinators.

The benefits of this garden are in line with the vision for the Pollinator's Native Garden:

- Increases biodiversity of pollinators (bees, butterflies, birds, insects and moths) as well as soil microbes.
- Promotes native plants in the area which are self-sustaining.

Precedent 2

Garden Design:
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Pollinator's Native Garden

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Scale
 $\frac{1}{2}$ " : 1'

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Case Study



Left: *winter/spring* Right: *mid-summer*

Location: *Claude Monet Estate, Giverny, France*

Architect: *Claude Monet*

Title: ***Walkway Garden***

Image Attribute : *Giverny.org*

Notes:

As the design at hand will be in a residential setting, Monet's Walkway Garden is an excellent source of inspiration for a naturalistic garden that gives itself to chaos in a small setting. The one particular point of focus is its movement over the seasons, as the garden is an ephemeral one, with an overflow of flowers on the walkway in spring that creep back late summer. There will be an effort to emulate this movement with the Pollinator's Native Garden.

Precedent 3

Garden Design: **Pollinator's Native Garden**
HORT 2221 Fall 2023
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Scale
1/2" : 1'

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Scientific Name	Common Name	Bloom	Pollinators and Beneficial Insects	Image
<i>Achillea millefolium</i> (4)	yarrow	Jul-sept	Native bees	a
<i>Adiantum pedatum</i> (1)	northern maidenhair fern	n/a	n/a	b
<i>Allium tricoccum</i> (6)	ramps	Jun-Aug	Insects	c
<i>Asarum canadense</i> (1)	Canadian wild ginger	Apr-Jun	Butterflies, larval host	d
<i>Asclepias tuberosa</i> (8)	butterflies weed	May-Sept	Butterflies	e
<i>Baptisia australis</i> (10)	blue false indigo	Apr-Jul	Native bees/ bumble bees	f
<i>Baptisia tinctoria</i> (11)	yellow wild indigo	Jun-Aug	Butterflies, native/ bumble bee	g
<i>Camassia cusickii</i> (9)	quamash	Apr-May	Butterflies, hummingbirds	h
<i>Cardamine concatenata</i> (6)	pepper root	Mar-may	Butterflies, larval host	i
<i>Carex pensylvanica</i> (15)	Pennsylvania sedge	May-Jul	Birds	j
<i>Ceanothus americanus</i> (12)	New Jersey tea	Jun-Jul	Birds, butterflies, larval host, native bees	k
<i>Chelone lyonii</i> (6)	pink turtlehead	Jun-Oct	Bees, butterflies, hummingbirds	l
<i>Claytonia virginica</i> (6)	spring beauty	Jan-May	Native bees	m
<i>Coreopsis verticillata</i> (8)	whorled tickseed	May-Jul	Birds, butterflies	n
<i>Echinacea purpurea</i> (10)	purple coneflower	Jun-Aug	Butterflies, larval host, native bees, insects	o
<i>Erythronium americanum</i> (6)	dog's tooth violet	Mar-may	Insects	p
<i>Eurybia divaricata</i> (5)	white wood aster	Aug-Nov	Butterflies	q
<i>Euthamia graminifolia</i> (9)	flat-top goldenrod	Jul-oct	Native bees	r
<i>Gaylussacia baccata</i> (13)	black huckleberry	May-Jun	Birds	s
<i>Iris cristata</i> (7)	dwarf crested iris	Mar-July	Hummingbirds	t
<i>Lobelia cardinalis</i> (2)	cardinal flower	May-oct	Birds, butterflies, hummingbirds	u
<i>Lobelia siphilitica</i> (2)	great blue lobelia	Jun-Aug	Birds, hummingbirds, native/bumble bees	v
<i>Mertensia virginica</i> (6)	Virginia bluebells	Mar-Jun	Bumble bees	w
<i>Monarda fistulosa</i> (9)	wild bergamot	May-Sept	Bees, butterflies, hummingbirds, moths	x
<i>Monarda punctata</i> (8)	Dotted mint	Jun-Aug	Native/bumble/honeybees, insects	y
<i>Pachysandra procumbens</i> (7)	Allegheny pachysandra	Mar-may	Bees, insects	z
<i>Phlox subulata</i> (8)	creeping phlox	Mar-Jun	Native/bumble/honeybees, butterflies, hummingbirds	aa
<i>Physostegia virginiana</i> (7)	false dragonhead	Aug-Nov	Butterflies, hummingbirds	ab
<i>Polemonium reptans</i> (6)	Jacob's ladder	Apr-Jun	Native/bumble bees	ac
<i>Pycnanthemum muticum</i> (11)	mountain mint	Jul-sept	Native/bumble/honey	ad
<i>Rhododendron periclymenoides</i> (14)	pink azalea	Apr-May	Birds, bumble bees, insects	ae
<i>Stylophorum diphyllum</i> (6)	celandine wood poppy	Mar-May	Bees	af
<i>Symphotrichum novae-angliae</i> (3)	New England aster	Aug-Oct	Native/bumble/honeybees, butterflies	ag
<i>Tephrosia virginiana</i> (8)	Virginia tephrosia	Apr-Jul	Insects	ah
<i>Tradescantia virginiana</i> (4)	spiderwort	Mar-Aug	Native/bumble bees, butterflies	ai
<i>Trillium grandiflorum</i> (9)	white trillium	Apr-Jun	Insects, honey/bumble bees, wasps	aj
<i>Veronicastrum virginicum</i> (9)	culver's root	Jun-Jul	Native/ honeybees, butterflies	ak
<i>Waldsteinia fragariodes</i> (2)	barren strawberry	Apr-Jun	Bees, insects	al



Plant Plan			
Groundcover/ Lawn (15)	Shade loving (6) (Bed 1-2)	Potted (1-5)	Number= plot/ pot number
Perimeter / wall (10-14)	Dry (8) (bed 4)	Moist (9) (bed 3)	

Image attribute: wildflower.org

Illustrative Plant List

Garden Design: **Pollinator's Native Garden**
 HORT 2221 Fall 2023
 Anesu Nyamupingidza
 11/23



Scale
 1/2" : 1'

Sheet
 1 of 1

This garden is low maintenance and can easily be arranged to meet preference. About 70% of the plants are in seed mixes. The seeds will be scattered in their corresponding beds and among the plants that grow, you can uproot plants for desired numbers and look.

Bed 1 – Part Shade Mix

Scientific Name	Common Name	Bloom	Life	Form	Sun	Soil	Pollinators and Beneficial Insects	Maintenance	Seed mix: part shade
<i>Iris cristata</i> (7)	dwarf crested iris	Mar-July	P	flower	P-s	M	Hummingbirds	Plant in shaded area, keep soil fairly moist and organically rich. Bloom period March - November.	
<i>Physostegia virginiana</i> (7)	false dragonhead	Aug-Nov	P	flower	P-s	M	Butterflies, hummingbirds		
<i>Pachysandra procumbens</i> (7)	Allegheny pachysandra	Mar-may	P	flower	P-s	M	Bees, insects	Plant in shaded area, keep soil moist and organically rich.	

Bed 2 – Shade Mix

Scientific Name	Common Name	Bloom	Life	Form	Sun	Soil	Pollinators and Beneficial Insects	Maintenance	Seed mix: shade
<i>Cardamine concatenata</i> (6)	pepper root	Mar-may	P	flower	S	M	Butterflies, larval host	Plant in shaded area, keep soil fairly moist and organically rich. Bloom period January - October.	
<i>Chelone lyonii</i> (6)	pink turtlehead	Jun-Oct	P	flower	P-s	M	Bees, butterflies, hummingbirds		
<i>Claytonia virginica</i> (6)	spring beauty	Jan-May	P	flower	P-s	M	Native bee		
<i>Erythronium americanum</i> (6)	dog's tooth violet	Mar-may	P	flower	P-s	M	Insects		
<i>Mertensia virginica</i> (6)	Virginia bluebells	Mar-Jun	P	flower	P-s	M	Bumble bees, bees (general)		
<i>Polemonium reptans</i> (6)	Jacob's ladder	Apr-Jun	P	flower	P-s	M	Native/bumble bees		
	celandine wood								
<i>Stylophorum diphyllum</i> (6)	poppy	Mar-May	P	flower	P-s	M	Bees	Keep soil fairly moist to dry, keep in well shaded area during the summer.	

Bed 3 – Moist Mix

Scientific Name	Common Name	Bloom	Life	Form	Sun	Soil	Pollinators and Beneficial Insects	Maintenance	Seed mix: Moist
<i>Camassia cusickii</i> (9)	quamash	Apr-May	P	flower	F-s	M	Butterflies, hummingbirds	Plant in area with full sun and keep soil moist. Bloom period April - October.	
<i>Euthamia graminifolia</i> (9)	Flat-top goldenrod	Jul-oct	P	flower	F	M	Native bees		
<i>Monarda fistulosa</i> (9)	wild bergamot	May-Sept	P	flower	F-p	M	Bees, butterflies, hummingbirds, moths		
<i>Veronicastrum virginicum</i> (9)	culver's root	Jun-Jul	P	flower	F	M	Native/ honey bees, butterflies	Plant in full sun to part shade, keep soil moist, loose and organically rich.	
<i>Trillium grandiflorum</i> (9)	white trillium	Apr-Jun	P	flower	F-s	M	Insects, honey/bumble bees, wasps		

Bed 4- Dry Mix

Scientific Name	Common Name	Bloom	Life	Form	Sun	Soil	Pollinators and Beneficial Insects	Maintenance	Seed mix: dry
<i>Asclepias tuberosa</i> (8)	butterflies weed	May-Sept	P	flower	F	D/M	Butterflies	Plant in full sun and water when dry. Bloom period April - September.	
<i>Coreopsis verticillata</i> (8)	whorled tickseed	May-Jul	P	flower	F-p	D	Birds, butterflies		
<i>Monarda punctata</i> (8)	Dotted mint	Jun-Aug	A/P	flower	F	D	Native/bumble/honeybees, insects		
<i>Tephrosia virginiana</i> (8)	Virginia tephrosia	Apr-Jul	P	flower	F-p	D	Insects	Plant in full sun and water once every 2 weeks. Prune back in mid- July.	
<i>Phlox subulata</i> (8)	creeping phlox	Mar-Jun	P	flower	F-p	D	Native/bumble/honeybees, butterflies, hummingbirds		

Plants Planted Along The Perimeter

Scientific Name	Common Name	Bloom	Life	Form	Sun	Soil	Pollinators and Beneficial Insects	Maintenance
<i>Baptisia australis</i> (10)	blue false indigo	Apr-Jul	p	bushy	F	M	Native/ bumble bees	Keep soil moist and plant in full sun.
<i>Baptisia tinctoria</i> (11)	yellow wild indigo	Jun-Aug	P	bushy	F-p	D	Butterflies, native/ bumble bees	Water when soil is dry, plant in part shade.
<i>Ceanothus americanus</i> (12)	New Jersey tea	Jun-Jul	P	shrub	F-p	D	Birds, butterflies, larval host, native bees	Water when soil is dry, plant in full sun to part shade. Prune back in mid-August.
<i>Echinacea purpurea</i> (10)	purple coneflower	Jun-Aug	P	flower	F	M	Butterflies, larval host, native bees, insects	Keep soil moist and plant in full sun. Deadhead during June-August and prune back in September.
<i>Gaylussacia baccata</i> (13)	black huckleberry	May-Jun	P	shrub	F-s	D	Birds	Water when soil is dry, plant in full sun to part shade. Prune back in mid-August.
<i>Pycnanthemum muticum</i> (11)	mountain mint	Jul-sept	P	bushy	P-s		Native/bumble/honeybees	Keep soil slightly most and plant partly shaded.
<i>Rhododendron periclymenoides</i> (14)	Pink azalea	Apr-May	P	shrub	F-s	D	Birds, bumble bees, insects	Water when soil is dry, plant in full sun to part shade. Prune back in mid-June.



Lawn Supplement

Scientific Name	Common Name	Bloom	Pollinators and Beneficial Insects	Maintenance
<i>Carex pensylvanica</i> (15)	Pennsylvania sedge	May-Jul	Birds	Cut foliage to ground in early spring. May pop up in beds, will need to be weeded out. Keep soil damp.

Potted plants (On Torii)

Scientific Name	Common Name	Bloom	Life	Form	Sun	Soil	Pollinators and Beneficial Insects	Maintenance
<i>Achillea millefolium</i> (4)	yarrow	Jul-sept	P	flower	F-p	D	Native bees	[Planter 4] Water when dry. Planter needs to be well drained and kept in shade. (Glazed ceramic)
<i>Adiantum pedatum</i> (1)	northern maidenhair fern	n/a	P	fern	P-s	M	n/a	[Planter 1] Keep planter moist, well drained and in shade. (Hanging basket, coco lining)
<i>Allium tricoccum</i> (1)	ramps	Jun-Aug	P	flower	S	M	Insects	[Planter 1]
<i>Asarum canadense</i> (1)	Canadian wild ginger	Apr-Jun	P	flower	P-s	M	Butterflies, larval host	[Planter 1]
<i>Eurybia divaricata</i> (5)	white wood aster	Aug-Nov	p	flower	P-s	D	Butterflies	[Planter 5] Water when dry. Planter needs to be well drained and kept in shade. (Terracotta)
<i>Lobelia cardinalis</i> (2)	cardinal flower	May-oct	P	flower	F-S	M/W	Birds, butterflies, hummingbirds	[Planter 2] Keep planter moist and in part shade. (Glazed ceramic)
<i>Lobelia siphilitica</i> (2)	great blue lobelia	Jun-Aug	P	flower	F	W	Birds, hummingbirds, native/bumble bees	[Planter 2]
<i>Symphotrichum novae-angliae</i> (3)	New England aster	Aug-Oct	P	flower	F	W	Native/bumble/honey bees, butterflies	Keep planter well-watered, well drained and in full sun. Deadhead during August- October and prune back in November. (Glazed ceramic)
<i>Tradescantia virginiana</i> (4)	spiderwort	Mar-Aug	P	flower	F-s	D/M	Native/bumble bees, butterflies	[Planter 4]
<i>Waldsteinia fragarioides</i> (2)	barren strawberry	Apr-Jun		flower	-	D-M	Bees, insects	[Planter 2]

* The Numbers for the perimeter plants (10-14) and for the potted plants (1-5) are corresponding to the numbers on the garden design.



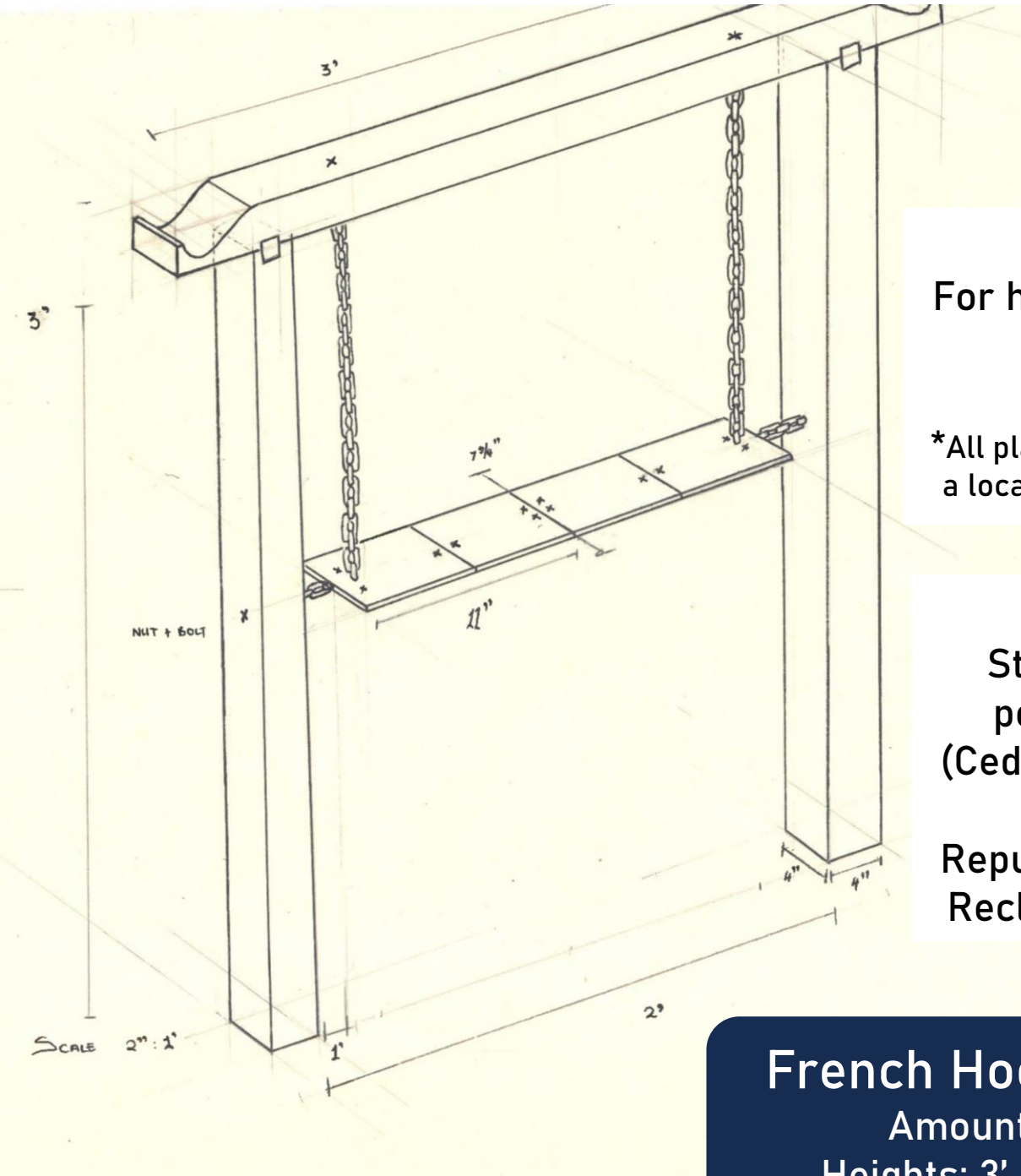
Map



* The torii create a double layer effect in the garden giving it both depth as well as an industrial touch. They allow plants to be moved, replaced or introduced. Plants that may not attract pollinators but are still of interest as the *Adiantum pedatum*.



Hardscaping



Purpose:
For hanging planters and setting potted plants on.

*All planters are hand built and thrown by a local artist using locally amassed clay

Materials:
Steam treated Cedar with a polished carbonised finish. (Cedar is a sustainably managed source.)
Repurposed railroad baseplates.
Reclaimed chain reinforcement.

French Hook Torii
Amount: 3
Heights: 3', 4.5', 6'



Pea Gravel Patio+ Solar lanterns

Purpose:
Outdoor lounging area.
It is fire friendly, allowing for the outdoor oven to be used as a fire pit.
It is permeable allowing for infiltration.
It is kept lit by low light solar lanterns, a sustainable source of energy.



Plant List



Image attribute: wildflower.org

Purpose:

The garden promotes plants native to the state and attracts a multitude of pollinators, staying in bloom January through November.

Plants like wild bergamot, New England aster, creeping phlox and New Jersey tea attract diverse groups of pollinators, increasing the foot traffic to other plants in the garden like yarrow with a smaller array of visitors.



The garden style promotes:

- biodiversity of pollinators (bees, butterflies, birds, insects and moths) by providing habitats and biodiversity of soil microbes as well.
- soil stabilisation.
- the renewal of ground water supplies.

And is low maintenance.

Image attribute: Bing AI

