Updated 02-04-2024

Orchard Park Landscaping Progress Report

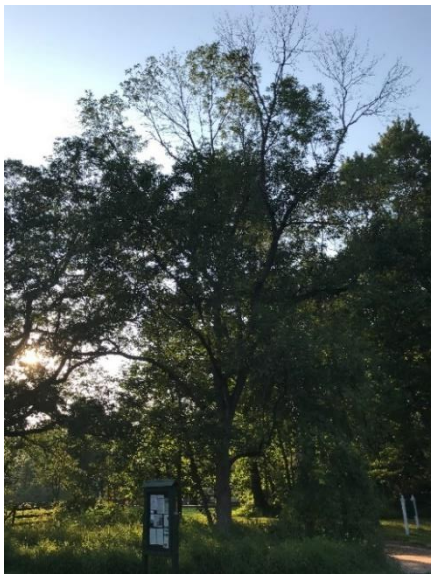
Tree Maintenance and Removal

- Volunteers removed some of the smaller ash trees from the two tree islands next to the Community Garden. In 2017, Bair Tree Service was contracted to remove the remaining ash trees for a cost of $3,700.00. This work was completed in 2018.

- In 2017, Bartlett Tree Experts treated the large ash tree near the bridge for the Emerald Ash Tree Borer for a cost of $345.00 and pruned the dead wood out of this tree for a cost of $665.00.

- Later in 2017, Bair removed this ash tree by the bridge for the cost of $1,850.00.

- In 2019, Bair removed another large ash on the Civic side of the stream for the cost of $1,350.00. At the same time, Bair pruned the dead wood out of a Pin Oak near the bench for the cost of $345.00.



Ash removed in 2019

Fallen Silver Maple removed in 2020

- In the fall of 2020, a large fallen Silver Maple was removed by Saxton Tree Service for a cost of $2,680.00

Tree and Shrub Planting

Border w/ Lamp Post Road

- The 2016 Strategic Plan for Orchard Park states an intent to plant a buffer of native trees and shrubs along the park's border with the properties on Lamp Post Rd.

- In September 2017, six Eastern White Pines were planted along the border by Highland Hill Farm.

- The pine trees were purchased and planted for a cost of $840.00. The money came from the Borough's tree fund.

- All six of the White Pines appear to be doing well with significant growth since they were planted.

- Fall, 2023 plantings (part of $500 grant from Bird Town Pennsylvania):
  Northern Red Oaks 2)
  Black Gum (1)

Orchard Area

- The Strategic Plan calls for this area to be preserved as an orchard but recognizes that the current trees are very old and in decline. It states an intent to replace these trees with new trees, as needed, but that fruit production is not a main concern.

- The Strategic Plan says that periodic pruning and maintenance of the apple trees will be needed. To that end, all the apple trees were pruned by Bartlett Tree Experts over a period of three years (2017-2019) for a total cost of $4,986.00. And over the past several years, several dead apple trees have been removed.

- In the spring of 2020, three white-flowering 'Sugar Tyme' crabapple trees were planted in the orchard by Dougherty for a cost of $1,110.00. The money for these trees came from the Borough's tree fund. Additional trees for the Orchard, approved at the time, weren't planted due to lack of available funding (See Appendix A)

'Sugar Tyme' Crabapple

- Spring, 2023 plantings by Shade Tree Commission at the pedestrian entrance on Keeley Ave.
  'Autumn Brillance' Serviceberry (1)
  White Swamp Oak (1)

- Fall, 2023 plantings (part of $500 grant from Bird Town Pennsylvania):
  American Plum (2)

Riparian and Wetland Area Along Stream

River Birch and White Swamp Oak

Caged Streamside Plantings in Competition with Canary Reed Grass

- Three 'Heritage' River Birch were donated and planted by Highland Hill Farm in September 2017.

- In 20__, a White Swamp Oak was planted by Walter's Nursery in celebration of Arbor Day for a cost of $___.

- Seven native trees and shrubs, donated by Gino's Nursery from the Pop-up Park, were planted along the stream in 2017:

  Button Bush (2)
  Red Twig Dogwood (3)
  White Birch (2)

- Fall of 2022 plantings:
  Pussy Willow (2)
  American Alder (1)

- Fall of 2023 planting (part of $500 grant from Bird Town Pennsylvania):
  'Winter Red' Winterberry (3)
  'Southern Gentleman' Winterberry (1)
  Black Willow (1)

Along Path


In the spring of 2021, Dougherty Landscaping planted four native trees along the recently installed path from the bridge to the Community Garden. The $ 1,140.00 cost was paid for out of the remaining DCNR grant monies.

Eastern Redbud (1)
Sweetbay Magnolia (3)

Tree Island


In the fall of 2021 eighteen native shrubs were purchased from Gino's Nursery for $361.00 and planted in the large tree island next to the Community Garden

Arrowwood Viburnum (3)
Black Chokeberry (3)
Fothergilla 'Mt. Airy' (5)
Red Chokeberry (3)
Virginia Sweetspire (3)
Witchhazel (1)

Woods Edge

- Fall, 2022 plantings:
  Elderberry (1)
  Pin Oak seedlings
  Silver Maple seedling (1)

- Fall, 2023 plantings (part of $500 grant from Bird Town Pennsylvania):
  Black Willow (1)
  Elderberry (3)

Clearing in Rear of Park

- Fall, 2023 plantings (part of $500 grant from Bird Town Pennsylvania):
  River Birch (2)
  Black Gum (1)

Community Garden Plantings

In the spring of 2023, one of the community garden plots was converted to a pollinator bed. Thirty native perennials were planted:

Blazing Star (3)
Purple Coneflower (3)
Bee Balm ‘Jacob Kline’ (3)
Sweet Goldenrod (3)
Black-eyed Susan ‘Little Goldstar’ (3)
Phlox ‘Ka Pow White’(3)
Agastache ‘Blue Fortune’ (3)
Narrow-leaf Mountain Mint (3)
Coreopsis ‘Daybreak’ (3)
Little Blue Stem ‘Standing Ovation’ (3)

Additional Proposals

Proposal for Riparian and Wetland Area Restoration from Kind Earth Growers

- The 2016 Strategic Plan offers no recommendations or guidelines for the management of this area.

- In late 2019, members of the Parks and Rec Committee held an on-site consultation with John Courtney of Kind Earth Growers. The $100 cost for this consultation was paid for with DCNR grant money.

- Kind Earth Growers produced a proposal (APPENDIX B) for habitat restoration along the creek. The proposal divides this area into three zones: Zone 1 is the primarily wooded area at the entrance to the park, Zone 2 encompasses the more open riparian areas on both sides of the bridge. Zone 3 encompasses the area deeper into the woods that is subject to seasonal flooding.

- The general goals of this habitat restoration, as stated in the proposal, include the removal and control of invasive species, streambank and soil stabilization with native vegetation and seed, the enhancement of pollinator habitat, and the minimalization of seasonal maintenance through less mowing.

- The specific recommendations outlined in the proposal focus on controlling and eradicating the invasive multiflora rose, Japanese honeysuckle, Japanese stilt grass, and Canary Reed Grass in these areas and then replanting with native herbaceous perennials, shrubs, and trees.

- The proposal emphasizes the need to get good control of the invasive non-native species before installing native replacement plants and says that a full growing season of invasive control may be required.

Landscape Plan from Gino's Nursery

- In 2020, members of the Parks & Rec Committee met on site with Nick Damato, owner of Gino's Nursery (the consult fee was $250.00) and subsequently asked Nick to produce a landscape plan for the areas along the stream and the ADA trail. The $800.00 cost of the landscape plan was paid for with DCNR grant money.

- The final landscape plan submitted by Gino's includes both hand drawn diagrams and written recommendations (APPENDIX C)

- The landscaping recommendations in the plan follow up on the Kind Earth Growers proposal for invasive plant removal in Zones 1-3 and includes specific recommendations for native perennials, shrubs, and trees to plant in each of the three zones.

- The plan goes beyond the three zones identified by Kind Earth Growers and includes recommendations for the installation and planting of connected rain gardens in the wet areas in the lawn on both sides of the path, which the plan identifies as Zones 4 and 5.

- The plan also proposes plantings around the pergola and on the tree island behind it, which the plan identifies as Zone 6.

- The plan also proposes planting small, flowering, native trees along the newly installed ADA path.

- The landscape plan from Gino's is more extensive in scope than anything the Parks and Rec Committee has ever discussed, and the Committee will need to decide how much of this plan it wants to eventually implement.

Future Decisions and Planning

Committee Decisions

- Beyond the orchard and the riparian area, what are the future landscaping and habitat restoration priorities for the park?
- How will future landscaping and habitat restoration projects be funded?
- How will the park's landscaping and restoration work be maintained and at what cost?

Possible Projects

- Additional planting to complete the restoration of the Orchard
- Additional landscaping of the entrance area (Zone 1)
- Additional planting along the stream (Zone 2)
- Installation of the proposed rain gardens (Zones 4-5)
- Habitat restoration (invasive removal and planting) in the wetland woods (Zone 3)

- Habitat restoration in the other wooded areas of the park

Flooding Issue

Any landscaping plans for Orchard Park will need to consider the flooding that occurs along the stream after a heavy rain. The plant species lists provided by both Kind Earth Growers and Gino's Nursery take this into account.

Flooding in December 2020

APPENDIX A

Orchard Tree Planting Proposal

DOUGHERTY LANDSCAPING INC.
P.O. BOX 5098
NEW BRITAIN, PA 18901
215-348-5807

Estimate

DATE	ESTIMATE NO.
3/15/2020	274

NAME / ADDRESS
NEW BRITAIN BOROUGH ATTN: SAM BRYANT 45 KEELEY AVE NEW BRITAIN, PA 18901

DESCRIPTION	COST
RE: ORCHARD PARK	
INSTALL THE FOLLOWING	
3 SUGAR WHITE CRABAPPLES - 1.75-2" CAL	1,110.00
2 PINK CRABAPPLES - 1.75-2" CAL	740.00
3 WHITE DOGWOODS - 1.75-2" CAL	1,110.00
3 REDBUDS - 1.75-2" CAL	1,170.00
1 BLACK GUM - 2-2.5 " CAL	435.00
1 SWAMP OAK - 2-2.5" CAL	435.00
1 SUNSET MAPLE - 2-2.5 " CAL	425.00
1 RIVER BIRCH - 10 - 12'	435.00
ALL TREES PLANTED WILL BE MULCHED, STAKED AND FERTILIZED AND HAVE A 1 YEAR GUARANTEE	
TOTAL	$5,860.00

SIGNATURE _____

APPENDIX B

Proposal from Kind Earth Growers

Goals for entire project

1. Removal and control of invasive exotic species
2. Streambank and soil stabilization with native vegetation and seed
3. Enhance user experience and participation in passive recreation
4. Enhance the native pollinator habitat
5. Minimize seasonal maintenance thru less mowing
6. Provide positive visual experience

Scope of area

- Zone 1 (woods/ wetland riparian) area to the right from the newly installed entrance bridge facing the community garden

- Zone 2 (woods/ wetland riparian) area to the left from the newly installed entrance bridge facing the community garden

- Zone 3 (woods/ wetland riparian) area deeper into the woods that is subject to seasonal flooding

Zone 1

Zone 1 is a primarily wooded section, which is the entrance to Orchard Park from the parking area at Covered Bridge Park. The herbaceous ground and shrub vegetation consist of a mix of non-native invasive species with a few native grasses and rushes struggling to compete. The goal of this area is to control the non-native vegetation and re-establish a native herbaceous and shrub layer to enhance the user experience visually.

Existing non-native herbaceous and shrub vegetation:

- Multiflora rose (*Rosa multiflora*)
- Japanese honeysuckle *(Lonicera japonica*)
- Japanese stilt grass *(Microstegium vimineum*)
- Canary Reed Grass (*Phalaris arundinacea*)

Existing native vegetation

- Wood reed (*Cinna arundinacea*)
- Green bulrush *(Scirpus atrovirens*)

Management and timing are key to controlling the existing non-native vegetation. The biggest issue in this zone is the Japanese honeysuckle and the Multiflora rose. Both of these species can be hand pulled and suppressed by repeated cutbacks. Only full removal of the roots will ensure full control. At the moment the Japanese honeysuckle is dominating the ground layer and could be hard raked and hand pulled this fall and early spring (March) followed by sowing a mixture of cool season grasses to stabilize the soil and to compete with the Japanese stilt grass. Seed mix shall consist of a mix of Creeping red fescue, Virginia wild rye, Northern sea oats and a seasonal appropriate cover crop. Reed canary grass control to be discussed in detail for the next zone.

During the summer growing season, it is recommended that the area be surveyed once a month to continue scouting for re-emergence of the Multiflora rose and Japanese honeysuckle, followed by a cutting of all vegetation to 6-8". This will keep the Japanese stilt grass down while allowing light for the native perennial grasses and fescue to establish. It is important to not let the stilt grass go to seed in September.

Zone 2

Zone 2 is a more open canopy section that is also at the entrance to Orchard Park from the parking area at Covered Bridge Park. The herbaceous ground layer on both sides of the stream is dominated by the non-native Reed canary grass, with a few older established Silky dogwoods (*Cornus sericea*). The goal of this area is to eliminate the non-native Reed canary grass and re-establish a native herbaceous and shrub layer to increase habitat diversity for birds and pollinators stabilize the existing stream bank and to enhance the user experience visually.

Existing non-native herbaceous and shrub vegetation:

- Multiflora rose *(Rosa multiflora*)
- Japanese stilt grass *(Microstegium vimineum*)
- Canary Reed Grass (*Phalaris arundinacea*)

Existing native vegetation:

- Wood reed *(Cinna arundinacea)*
- Common milkweed *(Asclepias syriaca)*
- Silky dogwood *(Cornus sericea)*

The main issue in zone 2 is the dominance of Canary reed grass. This is a quick growing rhizomatous cool season grass that can exclude all other desirable vegetation and is extremely difficult to eradicate by physical means. As with all weed control, timing is very important for effective control and eventual eradication. For this season I would recommend weed whacking or mowing and removing the existing thatch to for regrowth this season. If the temperatures remain mild enough for regrowth of the Reed canary grass this season, either an application of aquatic approved glyphosate or 20% horticulture vinegar can be applied, with a follow up application in early spring before the plants reach 12". Typically, Reed canary grass can be controlled within 2 growing seasons depending on timing and effectiveness of the treatments. Between the 2 products a more effective kill will be achieved using glyphosate. 20% horticulture vinegar is more effective as a defoliant and will have to be repeatedly applied to ultimately starve the plants' rhizomes. As with any herbicide, organic or synthetic, proper care must be taken to ensure no collateral damage is done to desirable vegetation. All pesticide labels should be followed, and application should be done by a licensed applicator. I have attached an information sheet from invasive.org for further information and techniques in controlling Reed canary grass.

Zone 3

Zone 3 is a secluded grove that is mostly wooded with a few gaps in the canopy, and it is subject to seasonal flooding. The ground and shrub layer are dominated by Japanese stilt grass and Multiflora rose, along with a range of shade tolerant native sedges that were observed in our October walk. This is an undeveloped passive area that has a lot of potential for increasing herbaceous diversity. All the eradication techniques listed in zone 1 are applicable in this zone as well. For the Multiflora rose control an additional technique would be "cut and dab" with an herbicide. This is a very direct and effective treatment that only targets the cut stem of the rose and will have no collateral effect on the surrounding environment.

Zones 1, 2 & 3 as a whole

The element that ties all 3 of these zones together is the stream that runs through them to the pond at Covered Bridge Park. This small stream is subject to regular flooding and is the main delivery of nutrients and sediments that are affecting the health of the pond. It is recommended that once the invasive species are controlled a native planting should be done. These plants will help stabilize the banks of the stream and help to control sediments from entering the pond during high water events. During regular flow events the native aquatic loving plants will aid in nutrient removal before they get to the pond. This would be a dynamic and holistic approach in improving the pond habitat.

Suggested Native Perennial Plant Lists by Zone

Zone 1:

- Northern sea-oats *(Chasmanthium latifolium)*
- Hop sedge *(Carex lupulina)*
- Crested sedge *(Carex crinata)*
- Path rush *(Juncus tenuis)*
- Bottle-brush grass *(Elymus hystrix)*
- Fowl manna-grass *(Glyceria striata)*
- White turtlehead *(Chelone glabra)*
- Marsh marigold *(Caltha palustris)*
- Cardinal flower *(Lobelia cardinalis)*
- Blue-flag *(Iris versicolor)*
- Wild strawberry *(Fragaria virginiana)*
- Golden ragwort *(Packera aurea)*

Zone 2:

- Switchgrass *(Panicum virgatum)*
- Tufted hairgrass *(Deschampsia cespitosa)*
- Fox sedge *(Carex vulpinoidea)*
- Blunt broom sedge *(Carex scoparia)*
- Soft rush *(Juncus effusus)*
- Joe-pye weed *(Eutrochium fistulosum)*
- NY ironweed *(Vernonia noveboracensis)*
- Common milkweed *(Asclepias syriaca)*
- Swamp milkweed *(Asclepias incarnata)*
- Blue-flag *(Iris versicolor)*
- Beard tongue *(Penstemon digitalis)*
- Cardinal flower *(Lobelia cardinalis)*
- Obedient plant *(Physostegia virginiana)*
- Green-head coneflower *(Rudbeckia laciniata)*

Zone 3:

- Marsh marigold *(Caltha palustris)*
- Royal fern *(Osmunda regalis)*
- Marsh fern *(Thelyperis palustris)*
- Ostrich fern *(Matteuccia struthiopteris)*
- Hop sedge *(Carex lupulina)*
- Shallow sedge *(Carex lurida)*

Mid-Stream:

- Tussock sedge *(Carex stricta)*
- Lizard tail *(Saururus cernuus)*
- Water willow *(Decodon verticillata)*
- Rose mallow *(Hibiscus moscheutos)*

Conclusion

While it is tempting to start planting perennials, trees, and shrubs because it feels good, it is recommended to get good control on the existing non-native species before installation. This may take another full growing season depending on frequency and effectiveness of the applications. I would suggest installing simple signage to help engage and educate visitors about invasive plants, habitat improvement and the process by which the goals are being achieved.

The plant lists that are provided are only suggestions. For the most part these species are unpalatable to deer, however deer can change their tastes quickly, as you all know. I would suggest choosing more aggressive sedges and grasses to begin holding space, then introduce some of the flowering perennials the second year. The suggested species will work well with the existing landscape and achieve the goals set forth in the opening. This should be looked at as a multi-year project and will require monitoring of the site on a monthly basis to ensure success.

I hope this is enough information to get the project moving. The site has its challenges but there are opportunities to work with. Don't hesitate to reach out with any questions. If you would like a list of contractors, I have worked with on projects like this I would be happy to provide one.

Kind regards,

John Mark Courtney
Kind Earth Growers LLC
PO Box 142
2503 Mountain View Dr
Ottsville, PA 18942

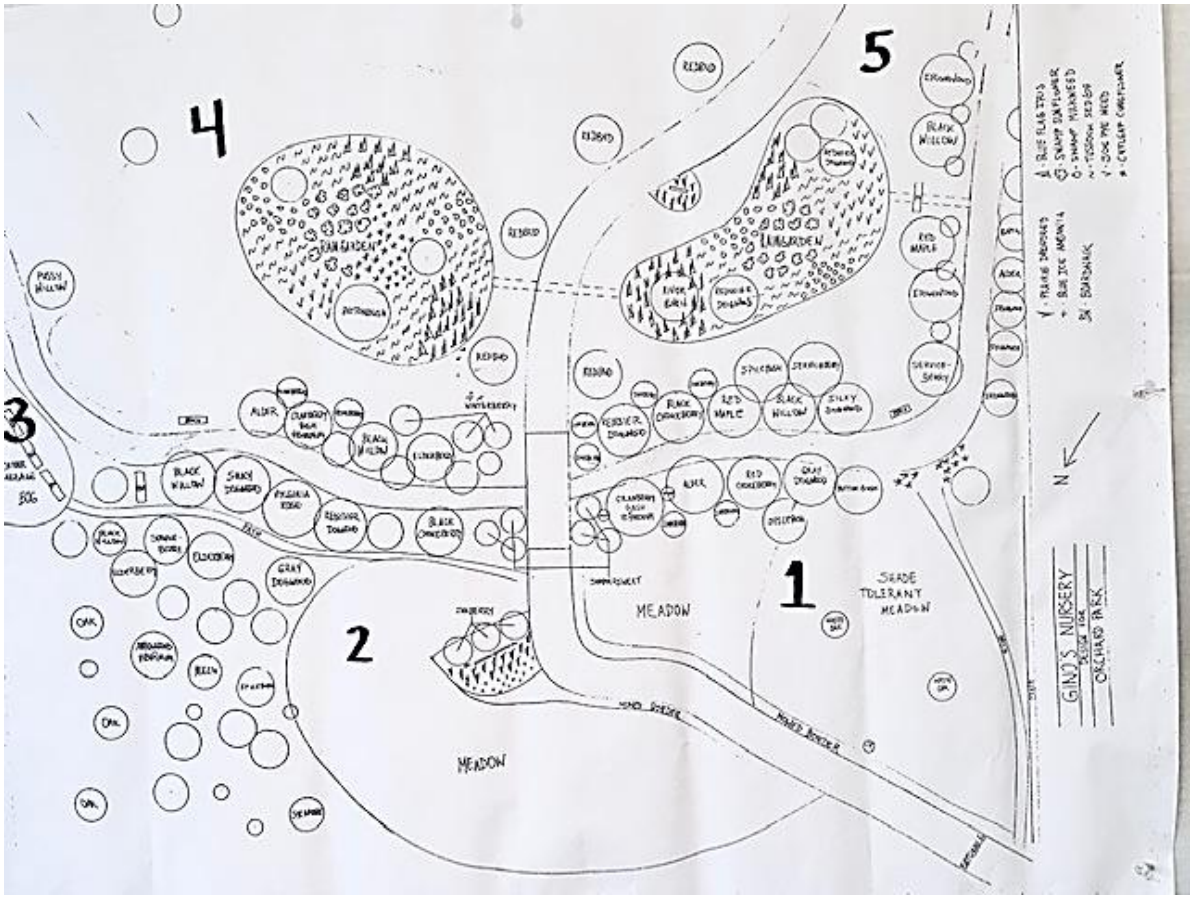
Phalaris info sheet

https://www.invasive.org/gist/moredocs/phaaru01.pdf

APPENDIX C

Landscape Plan and Design Recommendations from Gino's Nursery

Proposal prepared by Kind Earth Growers should be followed for recommended invasive plant removal and establishment of native vegetation. While following removal protocol of invasive plants it is recommended by Gino's Nursery to begin establishment of shrubs and trees, especially those conducive to stream bank stabilization. At present the banks of the stream are entirely too steep due to heavy water flow and lack of proper vegetation and debris. In addition to the establishment of trees and shrubs along the bank, consider also adding rocks, logs, and herbaceous plants directly into the stream to slow water and contribute to the ecology of the aquatic habitat.



The following recommendations should be utilized in accordance with Kind Earth's proposal for Zones 1-3:

Zone 1 – In addition to the recommended herbaceous material consider also…

- Ostirch Fern (Matteucia struthiopteris)
- Sensitive Fern (Onoclea sensibilis)
- Goatsbeard (Aruncus dioicus)
- Addition of path from entrance to large oak tree

Zone 1 Woody Plant List

- Summersweet (Clethra alnifolia)
- Cranberry Bush Viburnum (Viburnum trilobum)
- Smooth Alder (Alnus serrulata)
- Inkberry (Ilex glabra)
- Red Ckokeberry (Photinia pyrifolia)
- Spicebush (Lindera benzoin)
- Gray Dogwood (Cornus racemosa)
- Buttonbush (Cephalanthus occidentalis)
- White Oak (Quercus alba)

Zone 2 – Consider also…

- Addition of rot resistant wood planks (Boardwalk) along ground to allow for access to wet areas for viewing and education
- Pink Coreopsis (Coreosis rosea)
- Joe Pye Weed (Eupatorium maculatum)
- Boneset (Eupatorium perfoliatum)
- Bee Balm (Monarda didyma)
- Cup Plant (Silphium perfoliatum)
- Culvers Root (Veronicocastrum virginicum)

Zone 2 Woody Plant List

- Summersweet (Clethra alnifolia)
- Black Chokeberry (Photinia melanocarpa)
- Redosier Dogwood (Cornus sericea)
- Virginia Rose (Rosa virginiana)
- Silky Dogwood (Cornus amomum)
- Black Willow (Salix nigra)
- Gray Dogwood (Cornus racemosa)
- Elderberry (Sambucus canadensis)
- Serviceberry (Amelanchier canadensis)
- Arrowwood Viburnum (Viburnum dentatum)
- Spicebush (Lindera benzoin)
- Swamp White Oak (Quercus bicolor)
- Beech (Fagus grandifolia)
- Sycamore (Platanus occidentalis)
- Inkberry (Ilex glabra)

Zone 3 – Consider also…

- Skunk Cabbage (Symplocarpus foetidus)
- Boardwalk through bog area for access to hard-to-reach areas

Zone 4 – ***This is where Kind Earth's proposal leaves off and Gino's begins.*** The same invasive plant removal protocol applies. In this zone a rain garden is proposed for the handling of the wet area in the lawn. A depression or large swale may be a more appropriate description as it will be used to collect and distribute excess water. It is proposed to excavate a large area of soil to a depth of about 12" with a drainage pipe installed under the walkway to another swale and eventually emptying into the stream. The depression would be planted densely and convert a useless wet lawn area into a beautiful native garden. It would also allow the remaining lawn to dry out and become usable again.

Proposed Plant material for rain garden

- Buttonbush (Cephalanthus occidentalis)
- Blue Flag Iris (Iris versicolor)
- Tussock Sedge (Carex sticta)
- Swamp Milkweed (Asclepias incarnata)
- Cutleaf Coneflower (Rudbeckia laciniata)
- Swamp Sunflower (Helianthus angustifolius)
- Joe Pye Weed (Eupatorium fisulosum)

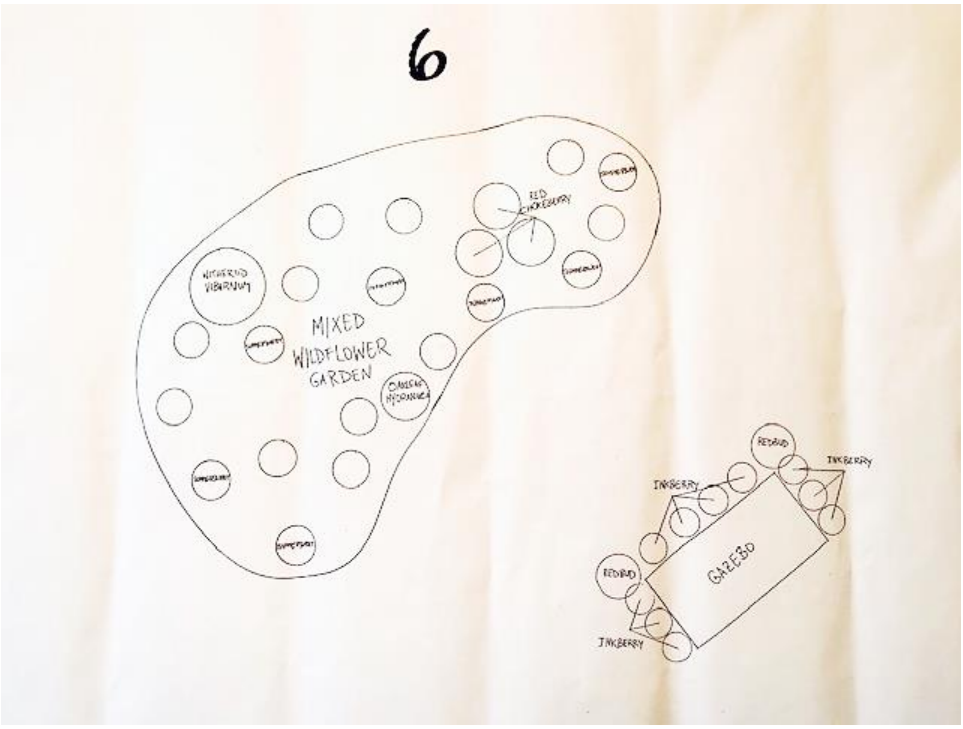
Zone 4 Woody Plant List

- Redbud (Cercis canadensis)
- Winterberry (Ilex verticillata)
- Elderberry (Sambucus canadensis)
- Black Willow (Salix nigra)
- Blueberry (Vaccinium corymbosum)
- Cranberry Bush Viburnum (Viburnum trilobum)
- Alder (Alnus serrulata)
- Pussy Willow (Salix discolor)

Zone 5 – The proposed "rain garden" continues from zone 4, connected by a drainage pipe. The plant material would consist of the same herbaceous plant material. Whatever excess water makes it to the end of this rain garden will then empty into the creek either by drainage pipe or gentle overflow swale.

Zone 5 Woody Plant List

- Inkberry (Ilex glabra)
- Redbud (Cercis canadensis)
- Redosier Dogwood (Cornus sericea)
- Black Chokeberry (Photinia melanocarpa)
- Red Maple (Acer rubrum)
- Black Willow (Salix nigra)
- Spicebush (Lindera benzoin)
- Serviceberry (Amelanchier canadensis)
- Silky Dogwood (Cornus amomum)
- River Birch (Betula nigra)
- Ironwood (Carpinus caroliniana)
- Sycamore (Platanus occidentalis)
- Alder (Alnus serrulata)



Zone 6 consists of a simple design around the gazebo and a proposed outline for the "wooded" area behind it.

Plant List for Gazebo

- Inkberry (Ilex glabra)
- Redbud (Cercis canadensis)

Woody Plant List

- Summersweet (Clethra alnifolia)
- Oakleaf Hydrangea (Hydrangea quercifolia)
- Witherod Viburnum (Viburnum nudum)
- Red Chokeberry (Photinia pyrifolia)

Woodland Wildflowers for Wooded Area

- Black Cohosh (Actaea racemosa)
- Columbine (Aquilegia canadensis)
- White Wood Aster (Aster divaricatus)
- Blue Wood Aster (Aster cordifolius)
- Big Leaf Aster (Eurybia macrophylla)
- Woodland Sunflower (Helianthus divaricatus)
- Wild Geranium (Geranium maculatum)
- Bluebells (Mertensia virginica)
- Zig Zag Goldenrod (Solidago flexicaulis)
- Blue Stem Goldenrod (Solidago caesia)