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## Creating a Unified Landscape for the Widener Visitor's Center

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## Creating a Unified Landscape for the Widener Visitor's Center

**Title:**                   **Creating a Unified Landscape for the Widener Visitor's Center**

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**Abstract:**

The Widener Visitor's Center is our primary point of contact with the public, however the landscape in front of the building fails to highlight its importance. Although this building supports many crucial functions of the Arboretum, in part because it is a re-purposed carriage house, the landscape around it easily becomes confusing and disjointed. Creating a cohesive design for the front of the Visitor Center will help visitors navigate both the building and the arboretum itself with greater ease. In addition, this landscape can be an example of good horticulture at its simplest, serving as a model for home landscaping. The new plan for Widener is designed to orient the visitor toward the front entrance where Visitor Services can best help him or her. The plants used were chosen primarily for soil adaptability and compact size, as well as year-round interest.

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## **CREATING A UNIFIED LANDSCAPE FOR THE WIDENER VISITOR'S CENTER**

The Widener Visitor's Center is the single most important building at the Morris Arboretum today. It supports our many public programs, providing spaces for classes and events. It is the location of our Plant Clinic and our Gift Shop. It is extremely important in terms of orienting first-time visitors to the Arboretum. However, the landscaping in front of this building has been largely overlooked. While currently there is a fair amount of seasonal interest from bulb displays in spring and annual displays throughout the summer, during the majority of the year the landscape around this building is extremely barren as it is overly reliant on annuals and herbaceous perennials.

The purpose of this project is to create a plan for a planting scheme which will highlight the importance of the Visitor Center all year long. In addition, the plan intends to make changes to the softscaping in order to address the somewhat confusing hardscaping of Widener, which can sometimes make it difficult for visitors to access this important resource.

### **SITE EVALUATION**

The first stage of my project was the evaluation phase. This phase consisted of an inventory of the plants currently located around Widener, soil tests, and research and interviews concerning the history and possible future of the landscape. The area inventoried was much larger than the area that eventually became the focus of the project. This area extended all the way to the Bell as indicated in Figure 1. The purpose of this inventory was firstly to build upon earlier research by former intern Kem-Ok Kim who found in a 2004-2005 project that many plants had died because of the difficult growing conditions at the site, namely thin, dry soil and high pH. Kim's study focused on the plants in what is known as the Woodland Garden, located to the south of Widener. Kim only looked at herbaceous plants but I also inventoried woody

plants.<sup>1</sup>

During my inventory, no plants were found to be dead but a few showed signs of decline such as the pale witchhazel (*Hamamelis x intermedia* 'Pallida') and many of the philadelphus (*Philadelphus schrenki*). In general, aside from slight chlorosis none of the plants demonstrated decline caused solely by high pH levels. In addition, the inventory noted that many plants, such as the *Viburnum nudum* 'LW' and the *Cornus kousa*, were in danger of outgrowing their space and blocking the windows to the building. Most of these plants will be moved elsewhere in the general vicinity of the building.

Concurrently with the inventory process, soil tests were performed through the Penn State Cooperative Extension program. Soil samples were taken from six of the beds surrounding Widener. The results of these tests can be seen in Figure 2. All of the samples were in the neutral-to-slightly-alkaline range of 7.0 to 7.6 pH. According to Penn State the optimal pH level to support the widest variety of plants is 6.5. The difference between a pH of 6.5 and 7.5 may not seem like a very big one, however pH is a logarithmic scale, meaning that the difference of one unit on the scale is actually a multiple of ten. Therefore 7.5 is actually ten times more alkaline than 6.5. The pH was highest in the beds directly in front of Widener. Many of the Arboretum staff I talked to about the high pH suggest this is related to the repairs made to the roof and brickwork of the building. In 2005 Kem-Ok Kim also found that the pH was high in the Woodland Garden to the side of the Widener building. Kim only tested in the beds to the left side of Widener in the Woodland area and found that pH levels were all above 7.3. For the two beds which Kim and I both tested, the pH levels remained the same since 2005.<sup>2</sup> However, these beds

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1. Kim, Kem-ok. "Re-Evaluation and Improvement of the Woodland Garden Around the Widener Education Building." Final Independent Project Reports. 2004-2005: 57-67.

2. Kim, Kem-ok. "Re-Evaluation and Improvement of the Woodland Garden Around the Widener

were further from the building and most likely not effected by construction. Whatever its cause, the high pH was a significant limiting factor on the plant palette we could use for the design project.

In addition to testing the pH and performing an inventory on the plants I also interviewed various members of the Arboretum staff concerning the design, including Curator Tony Aiello, Chief Horticulturalist Vince Marrocco, Director of Public Programs Bob Gutowski, and Visitor Services Coordinator Adele Waering. I also talked to Liza Hawley (Youth Education Coordinator) and Ellen Wilkinson of the Great Plants Committee because I hoped the area around Widener could be used in a Great Plants tour. During the interviewing process many long-term issues were brought up, in particular the need for a larger patio in front of the Gift Shop with more seating, as well as the need to develop a policy concerning this patio and the many functions it supports. In general people expressed a desire for plants with more interest during the whole year, in keeping with our position as a four-season garden. Perhaps the highest concern of those interviewed was planting the area around Widener in such a way as to direct visitors towards the front door.

### **AREA OF FOCUS**

After obtaining the soil test results, consulting with several staff members about the space and performing an inventory on the plants around Widener, Vince Marrocco and I decided to prioritize an area of concentration for the first phase of the design project. We chose to focus on the front and north side of the building. This decision was made for several reasons. Firstly, these beds have large unplanted areas and the plants in these beds have very little in common with one

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Education Building." Final Independent Project Reports. 2004-2005: 57-67.

another. Secondly, changing these beds would have the greatest impact in terms of orienting the visitor toward Widener from the parking lot as well as from the entry road.

In addition, Vince Marrocco and I have made suggestions for the large bed of cephalotaxus and junipers along the entry drive. These suggestions form Phase II of the project and will not be implemented during my internship. The goal of Phase II is to make the cephalotaxus and juniper beds mirror across to the bed with the rock wall on the opposite side. This will be achieved by carrying the *Juniperus procumbens* 'Nana' from the rock wall over and replacing the larger and faster growing Pfizer juniper, which currently limits the accessibility of the fire hydrant located closest to the Widener building and therefore presents a safety hazard. Phase II may be subject to change in future, however, as it would most likely be best to replace both junipers with species more resistant to juniper twig blights.

### **SITE ANALYSIS**

A central problem with the Widener landscape is that it fails to mesh with the interior functions of the building itself. The interior of Widener is set up so that the Gift Shop is the portal through which visitors, assisted by Visitor Services members, can find their way to different classrooms, services and facilities; however the exterior of Widener is much less focused. Widener has at least one entrance on every one of its four sides. Often visitors get confused and try to enter the door to the Plant Clinic or the door to the alcove outside the Education offices where there may not be any staff present to help them at all hours of the day. Therefore, a central focus of redesigning the landscape around Widener must be to orient the visitor toward the Gift Shop door.

Using the landscape to direct visitors toward the Gift Shop is more difficult than it may



seem. Firstly, the path from the parking lot toward Widener leads most immediately to the Northern side of the building, rather than toward the main Gift Shop entrance. The hardscaping of this area is also misleading because the path leading to the Northern side of the building from the parking lot is made of slate and shaped in a gentle, welcoming curve. The direction of the slate path curves away from the Gift Shop door rather than toward it. In order to get from the slate path to the patio and Gift Shop entrance, a visitor must make a very sharp turn. In addition, when walking down the slate path from the parking lot the view of the Gift Shop door is blocked by a large Zelkova tree. The shapes of the planting beds also lead the eye toward the Northern door of the building and away from the main door. However, reshaping the beds in order to direct the eye towards the gift shop door is impeded by the presence of a drain adjacent to the north-eastern bed.

The visibility of the Gift Shop door is also hindered by the crowding of the patio located in front of it. While this patio should work to announce the entryway into the building, the patio's many other functions have left it looking narrow and cluttered. The patio has many important functions; it provides additional space for the gift shop to display merchandise, it provides a waiting space for groups of visitors to meet, it provides spaces to dispose of trash and cigarette butts, and it is also central to many events such as parties and weddings. Both Bob Gutowski and Adele Waering have expressed frustration with the current state of the patio space, which is central to many public programs and wedding-related activities. In particular, both disliked how the benches on either side of the Gift Shop entrance blocked the narrow flower beds behind. Bob Gutowski proposed that in order to deal with this problem, the patio space might be extended outward making a semi-circle opposite the gift shop door. This is clearly an issue that needs to be addressed in the near future, however it lies outside the scope of this phase of

redesigning. Such changes are part of the long-term Strategic Plan for the Arboretum and certainly working towards making this space more open would most likely help it to function more like an outdoor lobby, which would attract visitors to the Gift Shop door.

### **SOLUTION**

In lieu of being able to change the hardscaping of the area around Widener, we chose to focus on changes that could be made to the plants and shapes of the beds around the building in order to create a feeling of cohesion and direction toward the Gift Shop entrance. Firstly, the beds were reshaped to connect the large bed with *Cephalotaxus* with the bed to the side of the steps leading toward the Northern side of the building. This change not only lends cohesion but it helps orient the eye toward the Gift Shop by reducing the extent to which the stairs are highlighted by having a separate bed alongside them. This slope is currently a drainage swale lined with turf. Because it is a swale, the slope is often wet and because it is covered in turf it requires regular mowing. The result is a steep and slippery slope which is very dangerous to mow. Connecting these beds is also safer for visitors because the slope as it exists now looks almost like a grass path leading down to Bruno's, but as mentioned it can be very slippery.

The second important change to the beds around Widener was to connect the plantings across both sides of the slate path. To do this, we redesigned the bed to the right of the entrance so that it came out a bit further to match the bed on the opposite side of the steps. Currently the shapes of these beds acts like a funnel, directing visitors towards the Plant Clinic and education offices. In order to redirect visitors toward the Gift Shop entrance, we will move the edges of the beds out to form a threshold, almost like a wall of plantings, so that the appearance of the stairs will be minimized. These two sides of the steps will be planted with grasses that will work to soften the edges of this path and reduce the visibility of the stairs to the North doors and orient

the visitor toward the front entrance.

In addition to the use of grasses and the changes to the beds we also wanted to plant a small tree to screen views of the porch from the direction of the parking lot. When walking from the parking lot, the porch is the most obvious entrance, but by screening it with a small tree we hope to be able to highlight the Gift Shop door instead. This tree will be located on the corner of the building and should not block views of the entrance from the driveway.

Even though these changes make the "wrong" path less appealing, the problem still existed that to get to the Gift Shop door required a sharp and slightly-unwelcoming turn. The solution was to make the turn visually more open by creating a bed around the zelkova and on the opposite side that will hopefully coincide with the location of the new Out on a Limb banner. These beds also will help mitigate the fact that many people cut through the grass to walk to the building. For a visual aid concerning reorientation of the beds, see Figure 3.

### **PLANT SELECTION**

In general we tried to select plants that are fairly pH adaptable, surviving well in soils with a pH of 7-7.6. We also chose plants that would be very compact (ex. *Ilex glabra* 'Shamrock'). In addition many plants were selected to complement and repeat the plants previously existing in the area. For example, we tried to tie in the *Deutzia gracilis* 'Nikko' from the wall along the entry-drive, the many *Hamamelis* around the Widener building, as well as tie in the hellebores and epimediums from the Widener Woods. Because we wanted to create the sense of continuity but have plants to serve different purposes--low shrubs to avoid blocking views and tall ones to act as hedges—we often used several different cultivars of the same species. Using different cultivars also was helpful from a curatorial standpoint because it allowed us to add plants to the collection, while keeping the design simple.

Currently the plantings to either side of the Gift Shop consist mostly of annuals and herbaceous perennials, namely hostas. As a result the front of Widener has basically no winter interest except for the *Hamamelis* on the two front corners of the building. A priority was integrating more woody plants as well as some grasses to serve as the backdrop for the design and provide year-round appeal. We refer to these woody plants and grasses as the “bones” of the design and selected two different *Ilex glabra* cultivars, two *Viburnum opulus* cultivars, and *Pennisetum alopecuroides* 'Foxtrot' to fulfill these functions.

One easy way to create year-round interest was to select some evergreen shrubs to work as a backdrop for the rest of the design. We chose two cultivars of our native inkberry holly. *Ilex glabra* 'Shamrock' and *Ilex glabra* 'Nigra' are both supposed to grow to about 4 feet tall. However, according to Michael Dirr's evaluations of these cultivars, 'Nigra' may get a little larger than 'Shamrock'.<sup>3</sup> Therefore we will put 'Nigra' on the left side of the entrance where it will have slightly more space and 'Shamrock' on the right where we need it to stay dependably small. In phase 2 of the project implementation we will also add another *Ilex glabra leucocarpa* 'Ivory Queen' which has white fruits and gets to about 10 feet. This will act as a screen between visitors eating at Bruno's and the cars driving up the driveway. There are also some *Ilex glabra* along the parking lot near Gates Hall, a testament to their hardiness and adaptability. In addition to *Ilex glabra* we will also be moving some of the *Cephalotaxus harringtonia* 'Duke Gardens' that are along the right side of Widener to fill in the area which is currently a drainage swale. Another source of evergreen interest will be some *Juniperus chinensis var sargentii* which

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<sup>3</sup> Dirr, Michael, A. 1998 Manual of Woody Landscape Plants: Their Identification, Ornamental Characteristics, Culture, Propagation and Uses. Stipes Publishing L.L.C., Champaign, IL.

will be planted in the small beds most directly in front of the building. These beds are extremely small, hot, and dry and we wanted a really drought-tolerant plant. *Juniperus chinensis* var *sargentii* was specifically chosen because it is low growing and especially resistant to *Phomopsis juniperovora* and *Kabatina juniperi*, two common juniper diseases leading to the dieback of new growth.<sup>4</sup> In addition, it is a very interesting variety which is not yet in our collection.

While the evergreen background will look the same more-or-less all year round, we also wanted to have some plants that would provide interest at different parts of the year. We chose two cultivars of *Viburnum opulus* (European cranberry bush). These add some good seasonal interest. They flower in late May to early June. They produce fruit from late summer to early autumn, sometimes persisting into winter. European cranberry bush can also get really good yellow-red to red-purple fall color, but results can be inconsistent. For this reason, one of the cultivars we selected, *Viburnum opulus* ‘Roseum’ is a sterile variety—meaning it will not produce fruit but will have showy sterile flowers—that gets especially good fall color. ‘Roseum’ gets to about 12 feet tall and for this reason we are putting it along the left side of the building where it can get slightly larger. For the right side of the building we selected *Viburnum opulus* ‘Compactum’ which stays around 5 feet tall.

We also wanted to use viburnums to tie in with some of the viburnums already at the site. For example *Viburnum nudum* ‘LW’ form, which the Arboretum got from Longwood Gardens.

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<sup>4</sup> [http://ipm.ncsu.edu/urban/cropsci/c09w\\_orn/jun\\_dise.html](http://ipm.ncsu.edu/urban/cropsci/c09w_orn/jun_dise.html)  
[http://www.ppath.cas.psu.edu/EXTENSION/PLANT\\_DISEASE/pdf%20Woody/Juniper%20Twig%20Blight.pdf](http://www.ppath.cas.psu.edu/EXTENSION/PLANT_DISEASE/pdf%20Woody/Juniper%20Twig%20Blight.pdf)  
<http://www.ext.vt.edu/pubs/plantdiseasefs/450-601/450-601.html>

Dirr, Michael, A. 1998 Manual of Woody Landscape Plants: Their Identification, Ornamental Characteristics, Culture, Propagation and Uses. Stipes Publishing L.L.C., Champaign, IL.

These are currently planted in the front of Widener but we are going to move them to the side where they will have more space because they are likely to get to 6' or more in height. This form is supposed to get better fruit set than the species. This viburnum has glossy leaves and beautiful fall color. It is also a fragrant viburnum.

We also wanted a grass to soften the pathway to the North-side of the building so that people would be encouraged to walk toward the Gift Shop entrance. For this purpose, we chose *Pennisetum alopecuroides* 'Foxtrot.' This very graceful cultivar of fountain grass has a gold inflorescence and gets to 4'. It will also fade to tan continue to provide interest throughout winter. This cultivar is also supposed to be better behaved than other fountain grass cultivars like 'Moudry' and 'National Arboretum' which self-seed freely.<sup>5</sup> Information was somewhat limited concerning how truly well-behaved this cultivar is but we are choosing to use this as an opportunity to trial it and determine whether it may be a truly improved form.

In order to further minimize the appearance of the north entrance of the building we wanted to put a small tree on the corner of the building. We chose *Lagerstroemia indica* 'Whit VI' Burgundy Cotton.® Crape-myrtles are extremely drought tolerant and this corner of the building can be very hot and dry. In addition, crape-myrtles are very soil-adaptable. This cultivar, which is a Carl Whitcomb introduction in the same series as chose *Lagerstroemia indica* 'Whit III' Pink Velour™--which recently won the Philadelphia Horticultural Society Gold Medal award. Burgundy Cotton® has burgundy new foliage and white flowers. It gets to around 12 feet tall, but can be cut back as necessary. It also has superior mildew resistance. During the

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<sup>5</sup> Based on evaluations in the Missouri Botanical Garden's Plantfinder feature. <http://www.mobot.org/gardeninghelp/plantfinder/Plant.asp?code=P880>. As well as from as much information as I could glean from various cultivar descriptions by nurseries. For example: <http://www.plantdelights.com/Catalog/Current/Detail/06870.html> who claim that they have not found seedlings in North Carolina.

winter months, the exfoliating bark will continue to provide interest.

In addition to these "bones" we are also planting some perennials and smaller shrubs including: *Amsonia* 'Blue Ice,' *Salvia nemorosa* 'Caradonna,' *Potentilla fructosa* 'Mango Tango', and *Hemerocallis* 'Voodoo Dancer.' All of these plants are very tough, soil-adaptable, and fairly drought-resistant. *Amsonia* 'Blue Ice' is a cultivar most closely related to *A. tabernaemontana*, rather than the more common garden species *A. hubrechtii*. *Amsonia* 'Blue Ice' is less floppy and smaller (1-1.5 ft) than both species of amsonia. 'Blue Ice' is supposed to bloom for longer in the spring than the species, but the main interest of the plant is the cut foliage. Like *Amsonia hubrechtii*, 'Blue Ice' turns a brilliant yellow in fall. Another blue plant, *Salvia nemorosa* 'Caradonna' is much longer blooming, fragrant when crushed and blooms all summer. The blue all-summer blooms of *Salvia nemorosa* 'Caradonna' will serve as a great complement to the orange-yellow flowers of *Potentilla* 'Mango Tango' which also blooms all summer long. This potentilla will also be a foil for the other potentillas already planted to the right of the entrance to Widener. We will also be adding a few *Hemerocallis* 'Voodoo Dancer', which is also in the Pennock Garden. 'Voodoo Dancer' really sets off the color scheme established by the salvia and potentillas. A full list of plants selected can be found in Figure 4.

We also designed some changes for the north side of the building because many of the beds were empty or had large gaps--for example the space left when a magnolia died recently. According to Herb White the Arborist, this plant died of verticillium wilt, a soil-borne fungus that can live in the ground for a very long time. Therefore, replacing this tree with a pH adaptable tree with resistance to verticillium wilt was very important. To replace this tree we chose *Hamamelis vernalis* Autumn Embers™. *Hamamelis vernalis* is one of the more pest resistant and pH-adaptable of the witchhazels. This tree will also serve to connect with the other

witch hazels and winterflowering shrubs around the building. Adding more plants with winter fragrance is especially important as the two witch hazels in the front of the building seem to be in decline with the *Hamamelis mollis* appearing to have *Phyllosticta hamamelidis* (witch hazel blight). The changes to the front of the building, in particular connecting the cephalotaxus bed with the bed with the *Hamamelis mollis* in the center, helped partition off this area as a separate "room." In general, modifications to this area are minimal and consists of spacing out some of the previously existing plants that are beginning to crowd one another. As mentioned earlier, we will also move the three *Viburnum nudum* 'LW' which had been in the front of the building to this side where they will have more space.

### **CONCLUSION**

A cohesive plan for the landscaping of the Widener Visitor's Center is a project which is long overdue. In future, further revisions to the beds along the entrydrive and some renovations of the Woodlands and Children's Eating Area will most likely also be necessary, however these changes will probably be best addressed once we have a better idea of the affects of the Out on a Limb and Tree Adventure projects on the traffic in these areas. Still other issues, like changes to hardscaping and policies concerning the use of the patio in front of the Gift Shop entrance will also need to be resolved as part of a more long-term strategic planning process. However, for the time being it is my hope that the changes proposed by my project will significantly improve the beauty and accessibility of this very important building. In addition, I hope that some of these very adaptable plants will serve as examples of how to mitigate the difficulties of limited planting space and harsh soil and moisture conditions.



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Missouri Botanical Garden Plant Finder.  
<http://www.mobot.org/gardeninghelp/plantfinder/Alpha.asp>.

Figure 1: Inventory Area.

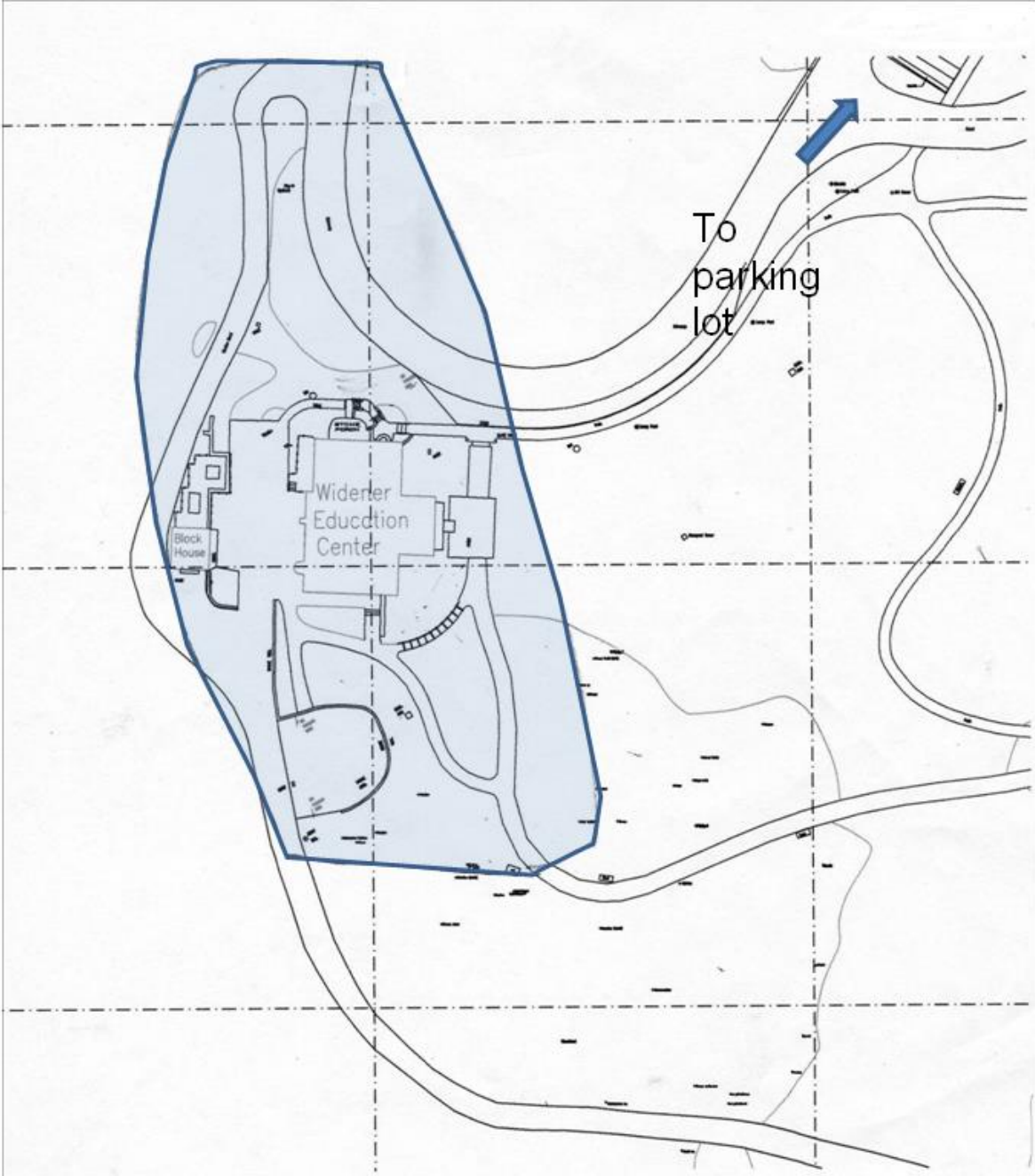


Figure 2: Soil test locations and pH levels.

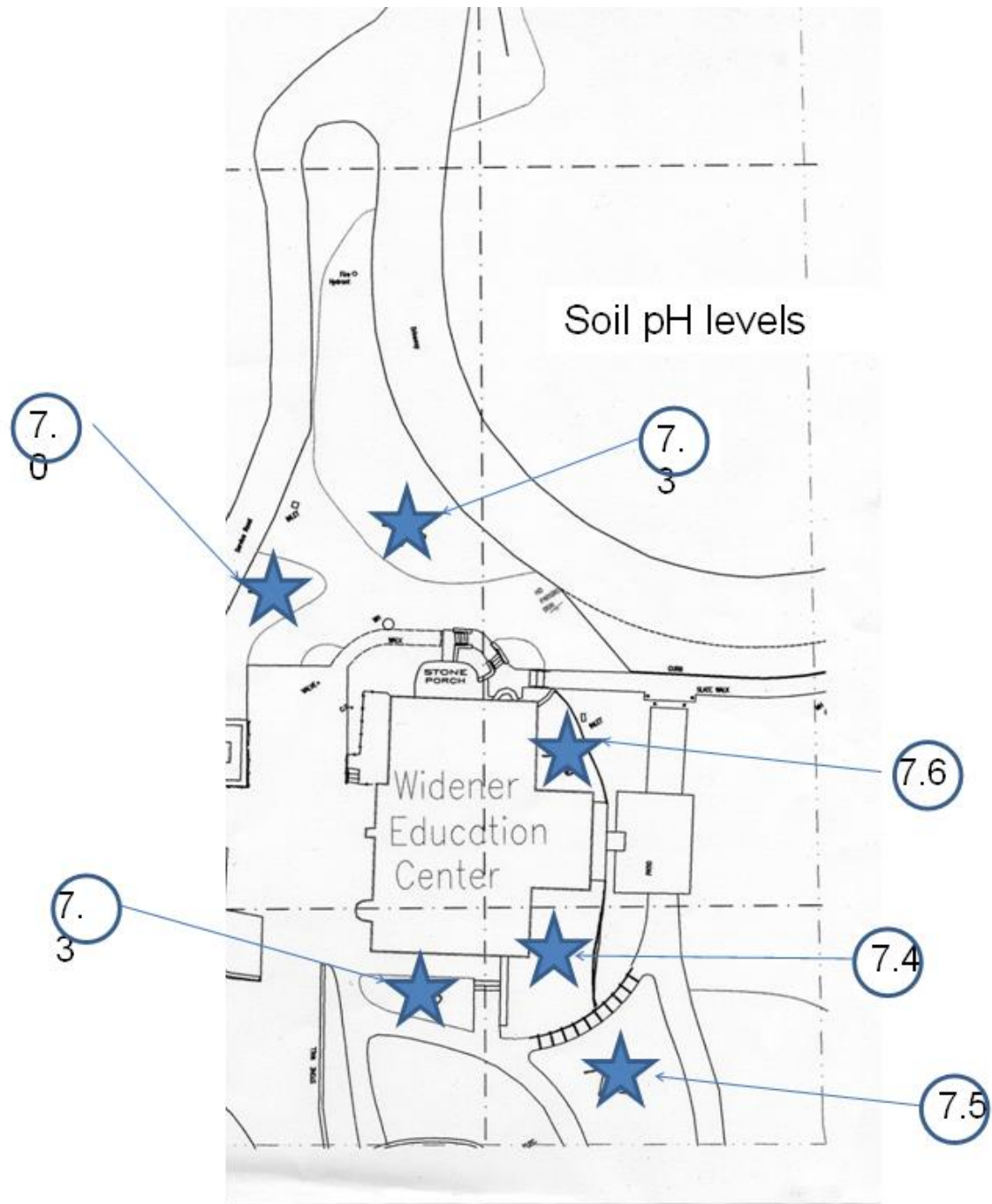


Figure 3: New bed shapes.

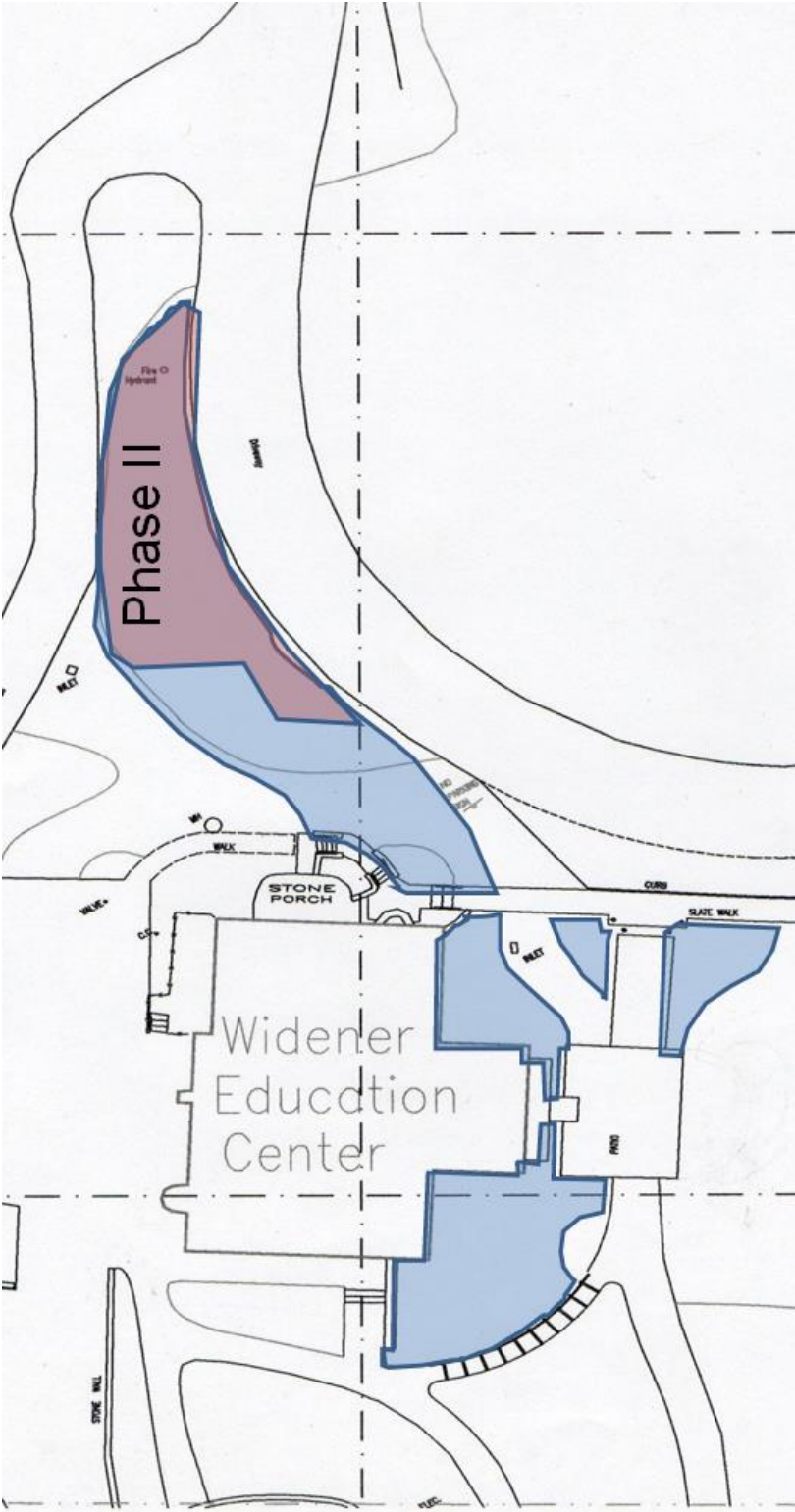


Figure 4: List of new plants and basic attributes.

<b>Plant</b>	<b>Seasonal Interest</b>
Deutzia gracilis 'Nikko'	White blooms April-May
Amsonia 'Blue Ice'	Blue blooms May, Fall color
Salvia n. 'Caradonna'	Blue blooms June-September
Hemerocallis 'Voodoo Dancer'	Purple/orange blooms June-September
Ilex glabra 'Shamrock'	Evergreen
Ilex glabra 'Nigra'	Evergreen
Viburnum opulus 'Roseum'	White blooms in May, Fall color
Viburnum opulus 'Compactum'	White blooms in May, Fall color, Fruits persist from fall to winter
<i>Pennisetum alopecuroides</i> 'Foxtrot'	Green foliage and tan inflorescence in summer, dry foliage in winter.
<i>Juniperus chinensis var sargentii</i>	Evergreen
<i>Potentilla</i> 'Mango Tango'	Orange-yellow blooms June to September
<i>Lagerstroemia indica</i> 'Whit VI' Burgundy Cotton.®	White blooms July until frost, Fall color, Exfoliating bark
Hamamelis vernalis 'Autumn Embers	Fall color, orange-yellow blooms January to April
Ilex glabra leucocarpa 'Ivory Queen'	Evergreen. White fruits.
Cephalotaxus harringtonia 'Duke Gardens'	Evergreen
Hellebore sp.	Evergreen, Spring blooming white to red.
Epimedium epsteinii	Evergreen, spring blooming.
Epimedium davidii	Evergreen, spring blooming.
Epimedium grandiflorum 'Pierre's Purple'	Evergreen, spring blooming.
<i>Liriope muscari</i> 'Webster's Wideleaf'	Evergreen
<i>Crocus chrysanthus</i> 'Blue Pearl'	Blue blooms February-March
<i>Chionodoxa sardensis</i>	Blue blooms February-April
<i>Narcissus</i> 'Mite'	Yellow blooms February-March