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Title: Bloomfield Farm Land Use Plan

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Abstract:

Construction of the new Horticulture Center at Bloomfield Farm has begun in 2009, making assessment of the Bloomfield Farm section a timely endeavor. The Bloomfield Farm Land Use Plan, in keeping with the arboretum's mission, is the initial attempt, subject to periodic review and revision, to delineate specific areas of the property and suggest optimal uses for each.

Twelve of the arboretum's staff was interviewed to gather their input for all areas and results were tabulated. Suggestions for each area and accompanying timelines for implementation are presented in order of each area's importance. Demands of the living collections, future educational needs - especially the inclusion of a pruning garden, site access, farm aesthetics, and the metamorphosis of the Bloomfield Farm identity were identified as important components of the plan.

As a compliment to the public garden, the farm's highest priority is to present a pleasing landscape to passersby while retaining its current functions of accommodating plant trials, maintaining and restoring historic farm structures, and housing the materials handling area. Completion of the new Horticulture Center will provide long overdue improvements of staff facilities, vehicle, and equipment storage areas. With culmination of the new education building in phase II construction, the conclusion of Bloomfield Farm's modernization assures readiness to meet the demands of increased public visitation in support of the arboretum's mission in concert with the land use plan.

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INTRODUCTION

The Bloomfield Farm Land Use Plan was designed to be a flexible planning tool to guide curatorial decision-making and resource allocation in accordance with the mission of The Morris Arboretum. This initial survey was a starting point from which to begin short to long term planning, and to identify key points to be incorporated into the arboretum's revised strategic plan.

The Bloomfield Farm section currently holds representatives of the living collection, as well as the community garden, the horticulture garage, composting, and materials handling area. Remnants of concluded plant trials remain, including *Eucommias*, *Betulas*, and *Magnolias*. Historic buildings occupy former farm space and while not directly the focus of this exercise, were included as part of the planning process.

With the onset of construction of a new Horticultural Center and Education Building, the time is appropriate to devise a plan for future planting schemes and staff and public usage of the farm.

METHODS

Ms. Elinor Goff kindly provided computer-generated scaled base maps of the Bloomfield Farm section, overlaid with grid lines, existing and proposed buildings, and all accessioned plants. With the assistance of Ms. Anne Brennan, fifteen distinct farms areas were delineated and overdrawn on the base map.

Twelve arboretum employees were interviewed to collect their opinions and suggestions for all fifteen areas. Prioritized areas of importance were developed in consultation with Anthony Aiello, and all other areas were ranked in order of descending importance based on collated interview responses. The priority areas included the Flowering Tree Slope, Front Slope, Bee Garden, and the Horticulture Center construction zone. Multiple recommendations for each area, ranked by importance, and implementation guidelines with a time frame were developed. Exceptions included the Director's residence and the Miller's Cottage garden as these are maintained as private areas.

Staff interviews generated additional suggestions which were broadly categorized into one of five subject areas: education, farm access, collections management, views and aesthetics, and the Bloomfield Farm identity.

RESULTS

Flowering Tree Slope

As a highly visible area viewed by passersby along Northwestern Avenue, the Flowering Tree Slope contains spring blooming *Malus*, *Prunus*, and *Pseudocarya*. The slope is situated behind the community garden plots, west of the entrance drive, and rises to the rear of the director's residence. It is desired to keep the area's character and to evaluate the current trees for health and performance. Additional spring flowering trees, mostly likely *Prunus* cultivars, can be installed to rejuvenate the collection. Tree evaluation can begin in 2009 and possible new flowering trees can be planted in 2010 onwards.

Front Slope

Second in priority and another public face of the arboretum, located east of the entrance drive and adjoining Northwestern Avenue, the Front Slope's current assemblage of trees presents a park-like visual gateway. It is desired to keep the open meadow-like vistas and evaluate trees for health and importance to the collection. Open areas exist to plant spring flowering trees that would extend the bloom period prior to the summer flowering *Koelreuterias*.

The Front Slope area closest to the entrance drive will be needed for overflow parking during periods of heavy visitation, and as such need not be laden with additional accessioned plants. Tree evaluation can begin in 2009 and new plants can be added in 2010 or later, as appropriate plants are acquired.

Bee Garden

The Langstroth Bee Garden, which fronts the entrance drive across from the director's residence, is an historic garden area that will become more visible and visited once Horticulture Center construction is completed. Its current assemblage of accessioned shrubs and non-accessioned herbaceous plantings is the ideal place to grow them for ease of management and proximity to the bee hives. To reduce maintenance demands, ground covers will be introduced in 2009. Redesigning of the bee garden will be proposed as a possible intern project for 2010.

Horticulture Center Construction Area

While interview subjects were not queried about this area, the construction zone is set to become a focal point of future public visitation. The green roofs, meadow plantings, and native plantings in beds surrounding the new building have been planned by the consulting architects, but are to be installed by arboretum staff. Their installation is dependent upon the timely completion of construction, with green roof installation scheduled for September 2009, and meadow plantings concurrently in autumn 2009. Native plantings in beds fronting the new horticulture center are dependent on construction timelines and may be delayed until spring 2010.

Quercetum

Preserving and expanding the arboretum's oak collection garnered the highest number of comments from interview respondents, making it their highest priority area of Bloomfield Farm. In order to add new oaks, irrigation lines must be installed closer to the Quercetum. During Horticulture Center construction, existing water lines will be subject to damage and repair, making spring 2010 an optimal time to install additional piping leading to the Quercetum. Tree evaluation and removal of senescent and dead trees can occur during the 2009 construction time frame, and new oak plantings can begin in 2010.

Additional suggestions included using the Quercetum for climbing classes, conducting research, and education.

Eucommia Grove

Generating the most suggestions for change, the *Eucommia ulmoides* Grove was viewed as a lackluster area needing improvement. Repatriation to Beijing Botanical Garden will be investigated in 2009, as well as evaluation of individual trees for performance and probable removal. As this area will be viewed from the Education Building after phase II construction is completed, replanting with spring flowering trees or others with seasonal interest to screen the golf course beyond is anticipated. Being a low priority area at this time, changes are not planned prior to 2010 at the earliest.

Northwestern Avenue Woodland

Currently given little attention, the Northwestern Avenue Woodland area, situated immediately adjacent to the Green Ribbon Trail and west of the Community Garden, has the potential to become a visual gateway to the arboretum. Removal of invasive species and clearing storm water deposited debris is an ongoing process to be accelerated by a future volunteer work session or project day in 2009. A design to include wet-tolerant species and native flowering understory- *Cornus*, *Amelanchier*, *Cercis* and similar is a possible intern project for 2010.

Stenton Avenue Meadow

Clearing invasive woody plants to keep the meadow's current appearance is ongoing. Interview respondents favored diversifying the plant palette to include native species to attract insects and birds, and to add more color to an area dominated by *Solidago*. Rerouting paths to higher ground would reshape the grassland and provide for a wet meadow area. Development of a meadow management plan is in progress, to be implemented in 2009.

Mill and Miller's Cottage

The historic Springfield Mill situated on the Wissahickon Creek is currently undergoing incremental restoration. Respondents valued the mill as a unique colonial structure with the potential for historic interpretation and educational use. The short term goal of improving the road bed with crushed stone to allow vehicular access in wet conditions has been completed. Leftover gravel from the horticulture center construction project could be used for further road improvement should the need arise. Clearing the mill race is anticipated to occur concurrently with mill restoration and is viewed as a long term goal. Likewise, planting a small nearby area with crops representative of those that would have been processed at the mill is long term and would support the educational and historic interpretation functions.

The Miller's Cottage may not always remain a residence, and should that occur, educational functions might occupy the structure. Respondents suggested locating children's summer camp activities and a children's garden in the Mill and Miller's Cottage vicinity.

Community Garden

While serving as the arboretum's community outreach, the Community Garden presents a pastiche of gardens to passersby on Northwestern Avenue. It is suggested that signage be erected on the enclosure fronting Northwestern Avenue to promote ownership by the Chestnut Hill Community Gardeners. The gardeners have been informed of a new rule imposed by their organization prohibiting orange snow fencing in an effort to beautify their space. A unified appearance is desired in keeping with the groomed appearance of the Flowering Tree Slope immediately behind the Community Garden. Possible solutions include semi-permanent deer enclosure fence panels which could be disassembled for facilitating end of season mowing.

Suggestions contributed by interview respondents included lengthening the garden's growing season, locating a children's garden nearby, adding plants for a future pruning garden, redesigning the space, or reclaiming the space for additional overflow parking.

Iron Bog

The neglected iron bog, another historic relic, is currently an overgrown home for invasive species and wildlife habitat. Situated across the road from the miller's cottage, the bog has the potential to be cleared of invasives while leaving some wildness for birds and animals. Clearing invasive species and debris is a possible volunteer project for 2009. In keeping with the Springfield Mill restoration, the Iron Bog could be incorporated into its long term restoration plan to become a future historical interpretation and educational area.

Meadows and Natural Areas

Functioning as a floodplain, the meadows and natural areas also provide views into and out of the farm towards Chestnut Hill College. Its function will remain unchanged as a storm water management area with meadow mowing occurring twice annually. The view will become an important vista when the Education Center is constructed. Possible long term uses could include introduction of wetlands similar to those on the Compton side in cooperation with local conservation organizations. In the short term, respondents suggested adding native plants to add value for wildlife and color for seasonal interest.

Weather Station

The Weather Station resides in a small chain-link enclosure behind parking areas, mostly hidden from staff and public view. If it is no longer used, it should be removed to obtain additional planting space. If it provides needed data, the instruments could be relocated to the Compton side or incorporated into the new Horticulture Building. Alternative suggestions included adding plants to the periphery to create a pruning garden or conducting a deer enclosure study.

Stenton Avenue Buffer

As its name implies, the Stenton Avenue Buffer serves as an insulating strip between Stenton Avenue and the meadows. Its collection of trees screens views into and out of the farm. Ongoing tree evaluation may identify some trees to be removed for view improvement, otherwise no enhancement is needed to preserve its park-like nature.

The Ridge

The Ridge, perched behind the Front Slope, is currently used for tree evaluation and will retain that function. No respondents offered any suggestions for changes or improvements.

Entrance Drive

While not designated as a specific farm area in this study, the Entrance Drive will increasingly become another space of high visibility as the public visits the Education Building. Inclusion of woody flowering shrubs such as *Hamamelis* for winter interest and others for autumn color along the entrance road will enhance the landscape which is not currently gardened. Plantings have already begun in this area.

Other Suggestions

Many respondents freely offered suggestions that fell into five broad categories: education, Bloomfield Farm identity, collections management, access/vehicular and pedestrian circulation, and views and aesthetics.

Educational suggestions topped the list with most respondents requesting a pruning garden for teaching purposes. Ideas of where to site the pruning garden ranged from the Weather Station, around parking lots, near the new Education Building, at the Community Garden, and along the Stenton Avenue Buffer.

Areas for a children's garden, youth education programs, demonstration gardens with crops grown for ethanol or to show organic practices, as well as a location for messy classes like hypertufa trough-making were requested on the farm side. Areas like the meadows, future green roofs and rain gardens were also mentioned as having future educational value.

Strong opinions were elicited when interviewees were queried about changing the Bloomfield Farm name. Some desired keeping the historic name while others suggested dropping 'Farm' from the name to reflect the evolution of the area. In future when phase II construction is complete, visitors will not see a farm in the agricultural sense, but new LEED-certified buildings which incorporate visual elements of a farming past with leading edge building techniques.

Collections management was addressed by respondents' opinions as to which plants should be retained or removed, and the addition of new plants. It was desired to evaluate plants for their historic and educational value, while realizing that certain remnant plants from concluded trials serve an aesthetic purpose, i.e. screening views, as well as being handsome specimens.

Keeping visitors segregated from working areas of Bloomfield Farm with appropriate signage, visual barriers, and gates if necessary, was of paramount importance to arboretum staff. Keeping automotive traffic away from tree roots in the Quercetum with the suggestion of rerouting the existing road, was mentioned as a way to avoid further root zone soil compaction. Developing a trail system linking the meadows/natural areas, mill, iron bog, and community garden were suggested as long term improvements.

Developing views into and out of the arboretum from several vantage points was addressed by respondents. Keeping vistas open to Chestnut Hill College and the Dixon tract across Stenton Avenue were specific examples cited. As mill restoration progresses, the opportunity may present itself to develop views of the mill and mill race in cooperation with the Whitmarsh Valley Country Club. Scenic aspects to be enhanced include the entrance drive, which will add continuity to the Front Slope and Flowering Tree Slope areas.

CONCLUSION

The potential for development of the Bloomfield Farm property is constrained by the size of the parcel, current plantings, extant historic buildings, future construction, available fiscal and human capital. The highest priority is to create and maintain a visually pleasing vista as viewed from Stenton and Northwestern Avenues. Additional plantings of flowering shrubs and trees will knit the Entrance Drive to the Front Slope and Flowering Tree Slope fronting Northwestern Avenue. The eventual development of the Northwestern Avenue Woodland will carry the visual continuity to the arboretum's western boundary.

Evaluating plants for aesthetics, health, and appropriateness to the Living Collection will capacitate curatorial decision making, guiding proper placement, and appraising scenic value. The planned addition of irrigation will facilitate rejuvenation of the Quercetum and adjoining areas that currently have no access to irrigation. Repatriation of *Eucommias* and designing for seasonal interest will rejuvenate the current *Eucommia* Grove and add scenic vistas from the proposed Education Building.

As components of the arboretum's Victorian landscape, the mill, miller's cottage, iron bog, bank barn, and farm house (director's residence) imbue the Bloomfield Farm parcel with a historical presence to be the focus of future interpretation by the education department.

The Bloomfield Farm Land Use Plan, encompassing the mission and goals of the Morris Arboretum, is a starting point from which to direct the appropriate use of the section's limited area, and may serve as a template to guide curatorial decision-making in other garden locales.

FIGURES

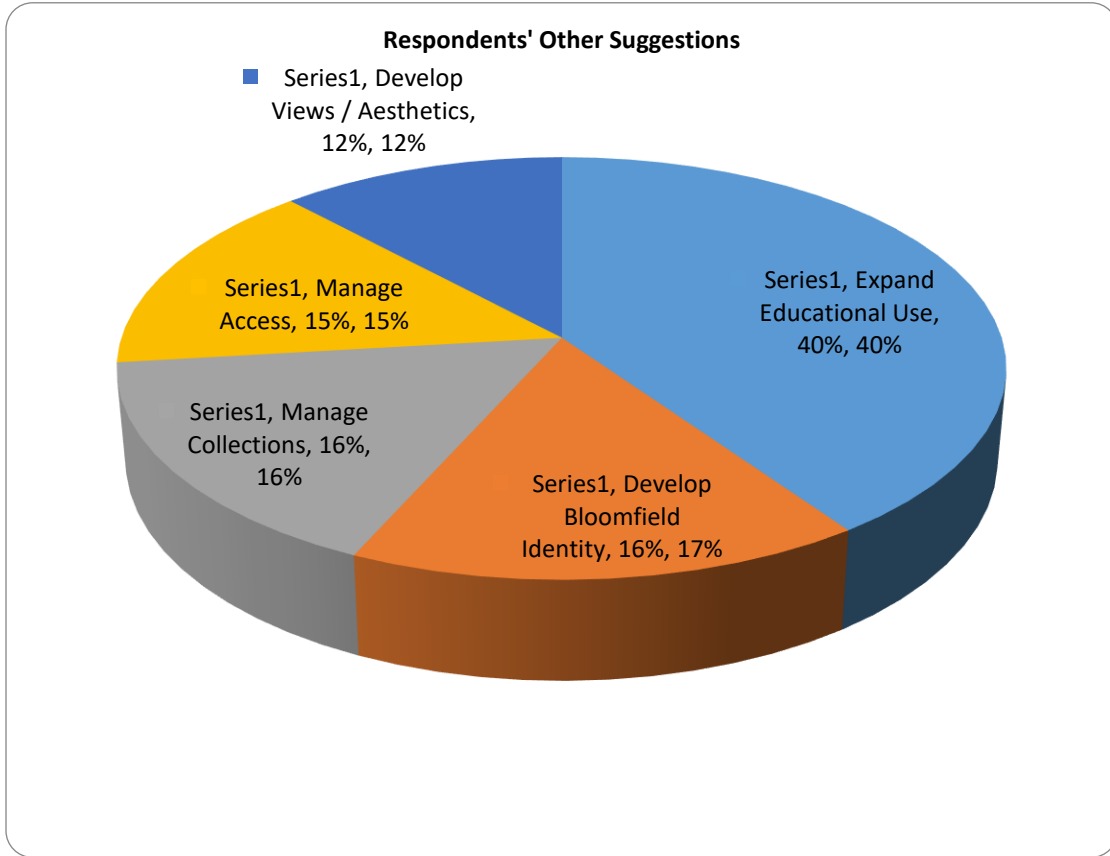


Figure 1. Respondents' Other Suggestions.

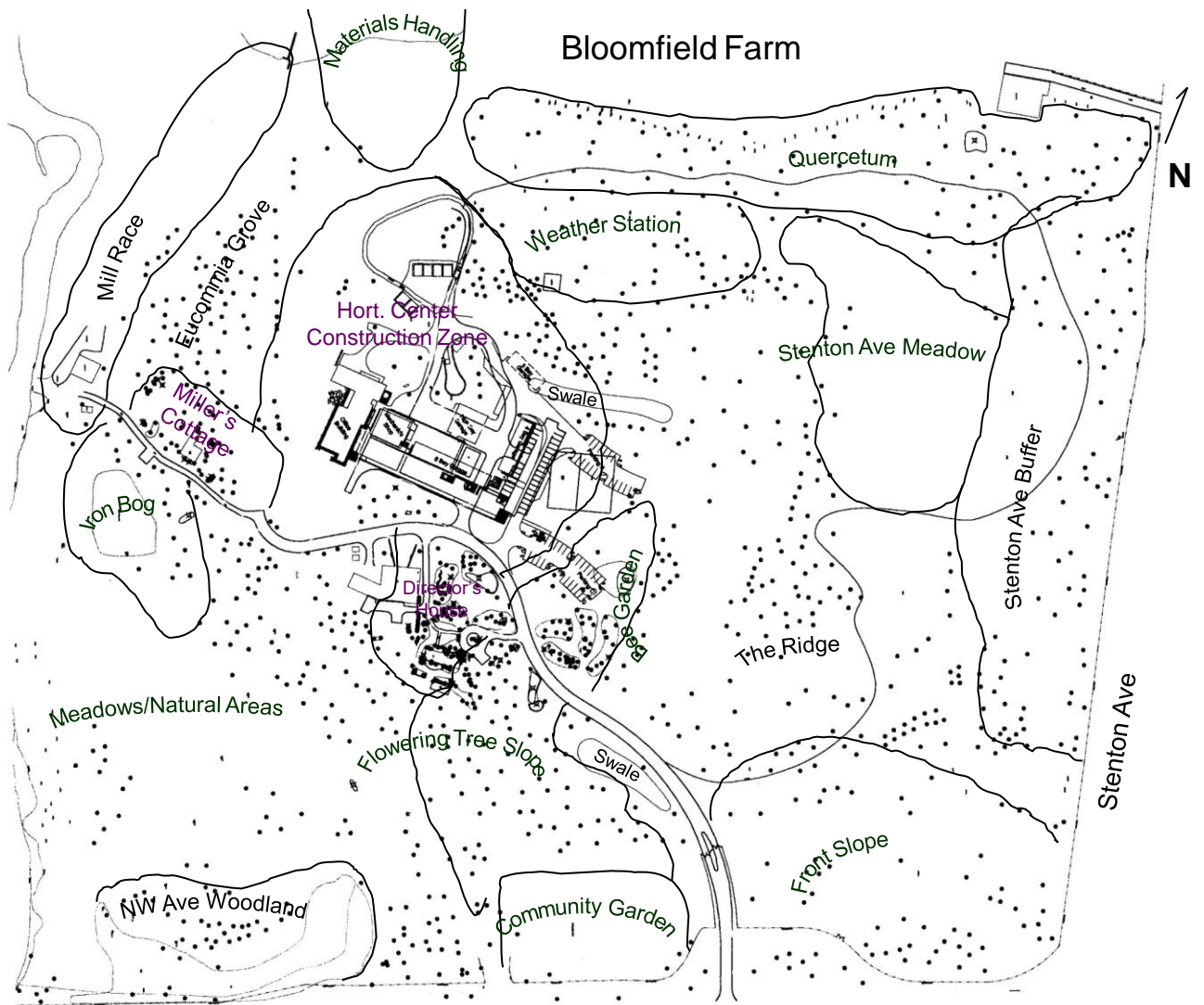


Figure 2. Bloomfield Farm Area Map

LUP Gantt Chart

		Schedule by Quarter													
ACTIVITY		2009		2010				2011				2012			
		3	4	1	2	3	4	1	2	3	4	1	2	3	4
1 Flowering Tree Slope															
1.1	evaluate trees, remove poor performers	xxxxxxxxxxxxxxxx													
1.2	replant with Spring flowering trees					xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx									
1.3	maintain current display	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx													
2 Front Slope															
2.1	evaluate individual trees		xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx												
2.2	keep park-like	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx													
2.3	maintain as a visual gateway	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx													
2.4	add spring flowering trees				xxxxxx										
2.5	retain for overflow parking		xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx												
3 Bee Garden															
3.1	keep shrub collection here		xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx												
3.2	add ground cover for weed control	xx													
3.3	add bee-friendly plants	xx		xx											
4 Horticulture Center Construction Area															
4.1	Plant Green Roofs	xx													
4.2	Install native plantings at Hort Center				xx										
4.3	install meadow plants		xx												
5 Quercetum															
5.1	install irrigation lines				xx										
5.2	evaluate oaks w/arborist assistance		xxxxxxxxxx												
5.3	plant new oaks				xxxxxxxxxxxxxxxx										
6 Eucommia Grove															
6.1	repatriate		xxxxxx												
6.2	thin collection			xxxxxx											
6.3	Replant with flowering trees				xxx										
7 Northwestern Ave Woodland															
7.1	remove invasives			xxxxxx											
7.2	add native flowering understory							xxxxxx							
7.3	add wet tolerant species							xxxxxx							
8 Stenton Ave Meadow															
8.1	clear invasive woody plants		xxxxxx												
8.2	add native plants				xxxxxx										
8.3	reroute paths to higher ground		xxxxxx												
8.4	develop meadow management plan	xxx													
9 Mill & Miller's Cottage															
9.1	improve road to mill	xxx													
9.2	clean out mill race											xxx			
9.3	plant demo garden with mill crops												xxx		
9.4	future education area?												xxx		
10 Community Garden															
10.1	install signage to promote ownership	xxx													
10.2	install a unified enclosure for aesthetics										xxx				
10.3	semi-permanent deer enclosure				xxx										
11 Iron Bog															
11.1	clear invasives	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx													
11.2	add native canopy									xxxxxx					
11.3	add wet tolerant species									xxxxxx					
12 Meadows & Natural Areas															
12.1	remove invasives, keep open for views	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx													
12.2	mow twice yearly, keep as floodplain		x	x				x					x		
13 Weather Station															
13.1	remove							xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx							
13.2	relocate							xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx							
13.3	add plants to screen, poss. Pruning gdn			xxxxxxx											
14 Stenton Ave Buffer															
14.1	keep as buffer, edit for views	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx													
14.2	assess plants for removal if necessary							xxxxxx							
14.3	keep as is	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx													
15 The Ridge															
15.1	retain for tree evaluation	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx													
16 Entrance Drive															
16.1	add flowering woody plants	xxx													
16.2	add autumn, winter interest	xxx		xxx	xxx										