

Cylburn Arboretum Conceptual Master Plan

Prepared by Mahan Rykiel Associates, Inc. + GWWO Inc./Architects. July 2005.

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Mahan Rykiel Associates, Inc.
GWWO Inc./Architects

In association with
the Baltimore City Department of Recreation + Parks
Horticultural Division,
and the Cylburn Arboretum Association

ACKNOWLEDGMENTS

The golden anniversary of Cylburn Arboretum marks a turning point at which longtime visions for Cylburn are beginning to become reality. This Master Plan, generously funded by an anonymous donor, is the first step in this exciting process. Any master plan undertaking of this kind requires a great deal of support from many individuals. We would like to thank the following people who have made this process possible through their efforts:

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I. EXECUTIVE SUMMARY

Cylburn Arboretum is a nature preserve and city park, comprising some 207 acres of woodland, meadows, gardens and lawns. Originally an estate set in the rolling countryside, the Arboretum remains home to beautiful historic buildings, many species of birds and other types of wildlife. It is visited by large numbers of school children, families, garden clubs, scout troops and individuals each year who come to explore, learn, participate in events, and simply enjoy nature. The center of the Arboretum is Cylburn Mansion, which serves as headquarters for Baltimore City's Horticultural Division of the Department of Recreation and Parks. It is also home of the Cylburn Arboretum Association, which works in close partnership with the Horticultural Division to help preserve, maintain, and develop the assets of the Arboretum. The mission of Cylburn Arboretum Association is:

. . . . to protect Cylburn Arboretum as a place of open space, beauty and quiet; and to ensure the preservation, enhancement, and interpretation of the site's gardens, woodlands, historic buildings, and collections of educational, environmental and recreational assets for the benefit of the City and citizens of Baltimore and surrounding regions.

As Cylburn becomes more popular and its visitation increases, pressure is being put on the aging collections and facilities. Issues of accessibility, maintenance, parking, storage, land and building use among others are becoming more critical over time. In the life of any institution there comes a time when it is urgent to take an overall look at the opportunities and challenges it faces. For Cylburn, having celebrated its 50th anniversary in the fall of 2004, that time is now.

Mahan Rykiel Associates was retained to prepare a Conceptual Master Plan proposing a large scale vision for the facilities of Cylburn, focusing ideas for the areas around the Mansion, Carriage House and Greenhouses. Following is a list of key goals for the Arboretum around which the master planning effort has evolved:

- ❖ To satisfy immediate functional needs and deficiencies caused by the renovation of the Mansion, changes in ADA requirements, and the needs of the existing educational programs. The Master Plan addresses the following building projects:
 - facilities for Horticultural Division staff and maintenance crews
 - equipment and supply storage
 - exhibit space for natural history collections
 - indoor classroom for school and adult programs

- ❖ To serve Cylburn's visitors more effectively through key site projects such as:
 - orientation + identification: entry design + signage
 - wayfinding: vehicular + pedestrian circulation, directional signage
 - interpretation: information kiosks, signs + exhibits
 - comfort: food/water, restrooms, seating, lighting

- ❖ To expand Cylburn's overall programs and facilities in an effort to establish it as a major facility/attraction for the City and as a major municipal arboretum on par with public gardens in other major cities. Other building projects addressed in the Master Plan include the following:

Cylburn Arboretum Conceptual Master Plan

- visitor orientation center
- gift shop + café
- education and event center with an auditorium
- expanded library

The greatest challenge at hand is in fulfilling the immediate needs of the Arboretum while planning for long-range needs. At the same time, Cylburn must preserve the unique history of its site, protect its character as a quiet reprieve from the city, and continue as an undisturbed nature preserve. The Master Plan itself has been developed to address the most important concerns for the Arboretum to date, and outlines a series of recommendations intended to serve as guidelines for goals that are to be implemented. The Master Plan can be regarded as a roadmap that offers many choices or paths than can be followed in reaching the ultimate destination.

Upon an evaluation of the existing facilities at Cylburn Arboretum, several facilities projects have been identified to deal with the critical issues of insufficient building capacity, inefficient space usage, and the imperative need to successfully orient Cylburn visitors. The projects described here are intended to be implemented in phases over the next few years as funds become available. One suggests the renovation of the current Carriage House into a combined nature and bird museum, leaving the upper floors of the Mansion as strictly administrative, and the bottom floor for special event rentals. Another outlines improvements that can be made to the ‘working side’ of Cylburn. New lockers, rest rooms, extra storage space, and a Greenhouse classroom facility, have been suggested to better-serve the staff, volunteers, and visitors. Additionally, the Master Plan recommends sites for a future Information Kiosk and Visitor Orientation Center, as well as a potential Education and Event Center with an auditorium space to accommodate the needs of Cylburn and the surrounding region.

One of the most critical site-related goals to fulfill for the Arboretum would be that of creating a continuous, logical sequence of experiences for the visitors. The need to establish a strong linkage among all buildings and spaces through the use of an interconnected path system has driven many of the projects proposed for site improvement. Five key site project areas have been identified, beginning with the expanded entrance and drive. In order to make Cylburn more visible and accessible, it is proposed that the Greenspring Avenue entry be enlarged and better signed. A pedestrian entry path should be included, as well as an accessible loop pedestrian pathway system throughout. In addition, visitors should be directed to a central parking and orientation area which will direct them to various destinations throughout Cylburn’s grounds.

The remaining site and landscape modifications suggest the creation of a Flowering Shrub Walk which will host display gardens indicative of the various plantings found around the Arboretum, and a Meditative Garden to be incorporated into the old nursery site adjacent to the Greenhouses. Lastly, it is recommended that the formal gardens be expanded and linked to the AAS Garden, the relocated vegetable garden, the proposed Meditative Garden, and the formal east lawn via a continuous, accessible pathway system. A wedding pavilion is also proposed to terminate the axis on the north side of the Formal Garden.



B. Estimate of Probable Construction Costs

The following budget summary should be used as a planning tool for establishing project budgets. The actual budgets will vary based on timing and any changes to the scope of vision of the project.

Proposed Facilities Improvements

Information Kiosk + Orientation Center	\$390,420
Education Center	\$1,985,088
Carriage House + Nature Museum	\$1,079,052
Greenhouse Addition	\$594,360
<hr/>	
Total	\$4,048,920

Proposed Site Improvements

Expanded Entrance + Drive	\$517,155
Visitor Orientation + Parking	\$980,619
Flowering Shrub Walk	\$65,706
Meditative Gardens	\$77,171
Formal Garden Restoration	\$113,640
<hr/>	
Total	\$1,754,291

In all cases, these estimates represent construction costs based on 2004 dollars. Future economic conditions are not factored in, nor are any owner contingencies included. To project these costs into the future an escalation factor should be added. Based on our current economy, a prudent escalation amount would be around 6% per year, compounded annually. Owner contingencies should range from 10–15% based on the type of construction.





Conceptual Master Plan
 Cyburn Arboretum
 Baltimore, Maryland
 November 2004



II. INTRODUCTION

A. Purpose + Process

Mahan Rykiel Associates was retained by the Cylburn Arboretum Association (CAA) in conjunction with the Baltimore City Horticultural Division of the Department of Recreation and Parks to prepare a long-range Master Plan for Cylburn Arboretum, a prized 207-acre city park and nature preserve in the heart of Baltimore. The purpose of the Master Plan is to provide a tool for both the City and the CAA to organize existing conditions and to guide Arboretum improvements over the next decade or longer, based on the current visions. The Master Plan addresses the Arboretum's current status, what it could be in the future, and what is required to get there. It represents a new and common vision that brings together the concerns of varying interest groups, which can be summarized in the following three main goals:

- ❖ To satisfy immediate functional needs and deficiencies caused by the renovation of the Mansion, changes in ADA requirements, and the needs of the existing educational programs.
- ❖ To serve Cylburn's visitors more effectively.
- ❖ To expand Cylburn's overall programs and facilities in an effort to establish it as a major facility/attraction for the City and as a major municipal arboretum on par with public gardens in other major cities.

As mentioned in the Executive Summary, the greatest challenge at hand is in fulfilling the immediate needs of the Arboretum and simultaneously planning for long-range needs, while at the same time preserving the unique history of the site, protecting its character as a quiet reprieve from the city, and maintaining it as an undisturbed nature preserve.

Because the Master Plan is far-reaching, this report highlights individual projects that could be implemented in phases over time as the necessary funds become available. While the Master Plan should serve as the foundation upon which improvements are planned, it is not intended that this document be inflexible. As surrounding influences and goals change over the years, adjustments to the Master Plan may also be necessary to accommodate these changes. It is important, however, to respect the inherent concepts and principles within it.

The structure of the Master Plan report is as follows: first, a framework was established based on input recorded from numerous visioning, programming and planning sessions with Cylburn stakeholders and research of other comparable public gardens and arboretums in major cities. Current existing facilities and site conditions were then evaluated and summary analyses/assessments and significant problems and opportunity areas were identified in the current structure of the Arboretum. Design criteria were formed based on the above, the goals and objectives for the Arboretum, and the established program, and were applied in the design development section. A spatial relationship diagram and conceptual master plan reflect Master Plan recommendations. The appendices provide supplemental information in the form of a program listing, schedule, charrette meeting reports, additional concept studies, and an estimated facilities construction costs breakdown.

B. Comparable Precedents

One of the main goals for the future of Cylburn Arboretum is to expand its overall programs and facilities in an effort to establish it as a major facility/attraction for the City and as a major municipal arboretum on par with public gardens in other major cities. The following public gardens were researched for elements against which to compare Cylburn:

- Brookside Gardens – Wheaton, MD
- Longwood Gardens – Kennett Square, PA
- 4-H Children’s Gardens – East Lansing, MI
- Louis Ginter Botanical Garden – Richmond, VA
- U.S. National Arboretum – Washington D.C.
- Hershey Gardens – Hershey, PA
- Morris Arboretum – Philadelphia, PA
- Norfolk Botanical Gardens – Norfolk, VA
- Hoyt Arboretum – Portland, OR
- Van Dusen Botanical Garden – Vancouver, British Columbia
- Cox Arboretum – Dayton, OH

It was discovered that many of the public gardens shared common functions, such as conservation and preservation, providing education and instruction, acquiring specimens, serving as a center for community activity, and attracting tourists. Integral to these functions in most cases were public parking, outdoor display areas and natural areas, All America Test Gardens, workshop and maintenance areas, greenhouse propagation areas, libraries and research stations. Cylburn possesses most of these key program elements, but needs better organization.

Perhaps the most comparable facility for Cylburn would be Brookside Gardens in Wheaton, Maryland. Although different in scale, Brookside can serve as a model for implementing the vision of Cylburn. Much like Cylburn, Brookside focuses on its goals of creating a pleasurable environment for visitors’ enjoyment and education. Visitors arrive and park in one consolidated area, with overflow parking off-site. They enter in one location to begin their tour of the gardens. The pedestrian pathway provided throughout the park is primarily asphalt, but there is enough variety to keep the pathways safe and interesting by showcasing different options for paving materials. The gardens are very well-connected and provide a logical sequence of experiences for the visitor; well-designed signage gives them a clear sense of direction. Another part of what makes Brookside so successful is that it is well-funded. Maintenance, adequate staff, and a means to implement improvements are less of an issue than at Cylburn.

C. Background

Functions + Purpose

Cylburn is owned by the Baltimore City Department of Recreation and Parks and serves as the headquarters for the Horticultural Division and the administrative center of the Cylburn Arboretum Association, whose purpose is not only to preserve the grounds, but also to educate Cylburn’s visitors about the environment and horticulture. Visitation is made up of mostly casual visitors, but also includes students



and school groups, garden clubs, and those attending educational workshops, open houses, or other special events such as weddings or Market Day in May. Cylburn's primary functions are focused around the Mansion, the grounds and display gardens, and the production greenhouses.

Context + History

Cylburn Arboretum is one of the few arboretums in Baltimore City, consisting of 207 acres of land situated between Northern Parkway to the north and Cold Spring Lane to the south, and Greenspring Avenue to the east and the Jones Falls Expressway to the west. The historic and natural environment of the arboretum represents one of the most important and scarce large open spaces amidst the congested development of north central Baltimore.

Central to the site is the luxurious Victorian mansion, designed by George A. Frederick for Jesse Tyson, a successful Baltimore businessman and importer. Construction commenced in 1863 but was not completed until after the Civil War in 1876. The main building material used was gneiss, from Tyson's nearby quarries at Bare Hills. The mansard roof is indicative of French design, while the cupola is more Italianate in style. Tyson's bride, Edyth Johns, continued to live in the Mansion after Tyson's death in 1906 until her own death in 1942, when the Mansion and its grounds were purchased by Baltimore City.

The 'Cylburn Wildflower Preserve and Garden Center' was founded in 1954 by the Board of Recreation and Parks and was administered by a local citizens' group, which was responsible for designing trails and gardens and developing the grounds of Cylburn as a center for horticulture and environmental education. In 1957, the Horticultural Division of the Department of Recreation and Parks established its headquarters at Cylburn. Although many mature rare trees and shrubs planted by the owner were still intact, the two groups worked together to further develop the plant collections and gardens. In 1981, the name of the Cylburn Park changed to Cylburn Arboretum, clarifying its mission for the City as a horticultural center for the preservation, maintenance and expansion of Cylburn's shrubs and trees, and the maintenance of its gardens and woodlands. The administrative/fundraising volunteer organization already assisting in that effort was renamed Cylburn Arboretum Association, Inc. in 1982.

IV. EXISTING CONDITIONS, ANALYSIS + NEEDS ASSESSMENT

Mahan Rykiel Associates (MRA) and their consulting architects, GWWO, commenced their work with an analysis of Cylburn Arboretum's existing historic and natural resources, and in turn, developed the following assessment focusing on the key opportunities and challenges associated with them.

A. Existing Facilities Summary

Cylburn Mansion

The Cylburn Mansion (Figure 1) houses the offices of the City Horticultural Division and the Cylburn Arboretum Association. It also contains a horticultural library, bird museum, nature museum, herbarium, and a collection of wildflower paintings. As the center of Arboretum activity, lectures, workshops, demonstrations, exhibits, and open house events are presented at the Mansion by the Association and cooperating groups on a regular basis.

Though the Mansion has served these functions adequately in the past, events and administrative needs are putting stress on the building's programming capacity. Additionally, the MOS Bird Museum and Cylburn Nature Museum are located on the 2nd and 3rd floors on the Mansion, and therefore are not handicapped accessible since there is no elevator. The ground floor, more suitable in terms of accessibility, is used strictly for meetings and receptions.

The Mansion's museums provide an excellent, abundant educational resource, and should be accessible to all. In addition, the design team determined that the current display and exhibit space should be doubled in size to allow for ever-growing needs. Adequate storage, staff/office space, library, and lab/workshop/classroom space are also lacking.

Carriage House

The Carriage House at Cylburn Arboretum (Figure 2) remains an important piece of historic architecture in conjunction with the Mansion, and should be preserved. Currently, the Carriage House provides much-needed storage space for plant material, equipment lockers, volunteer and naturalist tool storage lockers and equipment, greenhouse and maintenance storage, and other miscellaneous items that were moved from the Mansion during renovations.

There is potential for the exhibits, office space, and library in the Mansion to be relocated to the Carriage House, but renovations to accommodate them and the above mentioned storage needs will be extensive. Providing accessibility to the exhibit space should be a priority.



Figure 1.



Figure 2.

Greenhouses



Figure 3.

These ‘glass’ houses (Figure 3) were designed and constructed in the late 1960’s by the important 20th century greenhouse builders, Lord & Burnham. They currently serve as the production facilities for the Horticultural Division. Thousands of bulbs, annuals and other crops are grown for use not only at Cylburn Arboretum, but also at the Howard Peters Rawlings Conservatory and other park sites in the city. The greenhouses are not open to the general public, but they host programmatic visitation for horticultural therapy groups, Garden Club workshops, and school tours.

Current greenhouse staff includes a half-dozen or so employees and approximately ten volunteers per week on average. The facility as it exists cannot comfortably and efficiently accommodate the needs of the staff and visitors. It lacks storage areas, men’s and women’s restrooms and locker rooms, a lunch area, and classroom space. A classroom adjoining the greenhouse would allow hands-on horticulture workshops in proximity to the growing areas.

Maintenance Facility



Figure 4.

The maintenance facility located behind the greenhouses (Figure 4) is used by the Horticultural Division landscape crews for Baltimore City. Appropriately located to the rear of the Arboretum, the facility is still visually out of place with the rest of Cylburn. Sufficient screening is lacking, as well as amenities such as adequate locker areas, bathrooms and showers for maintenance crews. The Horticultural Division indicates that there is the potential for relocation of the maintenance yard to another site for the field crews of the Horticultural Division, which could help better accommodate the developing vision of the Arboretum.

B. Existing Site Summary

Site Character

The Arboretum to this day remains a quiet retreat, a refreshing escape from city life. Central to the site, the Victorian architecture of the Tyson family’s Mansion and Carriage House, as well as the formal gardens, make the visitor aware of the property’s inherent historical significance. The modesty of its gardens and its quiet spaces create a setting for passive visitor activity. The array of plant material and wildlife characterize it as an invaluable nature preserve.

The landform at Cylburn Arboretum is one of its most distinguishing physical characteristics, consisting of a central plateau which gently rolls down into a woodland edge. This forest steeply slopes down to the property boundaries, 200 feet below the highest point. The plateau upon which all of the buildings are situated affords long views across the site from the entrance drive and Mansion. The lawns east and west of the Mansion provide strong visual contrasts with the garden planting and dense woodlands that occupy most of the site. Probably the most striking characteristic of the lawns is their relationship with the Mansion. They also serve as flexible spaces for accommodating events. Careful attention should be paid to maintain the simple, uncluttered elegance of the setting.

Pedestrian Circulation



Figure 8.

Proper pedestrian accessibility into Cylburn is not provided. At the Arboretum entrance, wood chip paths through the planting beds allow limited access into the site (Figure 8), but with the future development that is likely to occur in the surrounding area, establishing separate, paved, accessible paths should be a priority. At present, once inside the property, pedestrians and cyclists must share the road with vehicles.

Once first-time visitors determine where to park their vehicles, there are no pathways or visible signage or point of orientation indicating how they might proceed on their journey through the Arboretum. The lack of a unifying, looped pathway which could provide an organized garden tour makes the circulation throughout the site confusing.

Safe walking surfaces are essential in any public space, and there is definitely the need to provide them at Cylburn. Currently, it is not an easy task for a handicapped person to navigate through the gardens. Consistency in garden path materials is key in meeting ADA requirements.

Arboretum Gardens



Figure 9.

The character of the grounds surrounding Cylburn Mansion are moderately indicative of typical Victorian landscape design, featuring a circular approach drive, large specimen trees and circular flower beds. Color is abundant in Victorian gardens, which can be formal and informal in arrangement and usually contain a mixture of elements from Asian, Western European, Colonial and English garden history, such as boxwood hedges, fences, and other decorative elements. The Formal Garden adjacent and to the rear of the Mansion was recreated from remains of the original Tyson garden (Figure 9). Its central axis is flanked on either side by boxwood hedges, pyramidal evergreens, perennial beds, and finally lawn panels featuring benches and statuary. The current lack of accessible pathways, however, makes this garden difficult for all visitors to experience.



Figure 10.

The garden is terminated on the south side with a historic circular fountain (Figure 10), to which no improvements have been made. There is great potential in this area to expand the Formal Garden as it exists now into one that incorporates the old fountain, provides a better enclosure for the existing collection of trees, and makes a stronger connection to the Mansion. The Formal Garden and east lawn together make a popular location for weddings, but there is a need for a covered pavilion of some sort in which ceremonies and receptions can take place. On the north end, the garden does not terminate as formally as the south end, but instead is bordered by the Garden of the Senses. Waist-high railroad tie planters against a backdrop of evergreens compose this sensory garden for the handicapped.



Figure 11.

Adjacent to the Garden of the Senses is the less formal Stu Kerr Memorial Children's Garden. It was designed to be low maintenance, attractive to butterflies and other wildlife, and educational for children. Adjacent to the Children's Garden and to the immediate rear of the Mansion is the All America Selections Garden (AAS) (Figure 11). Arranged in formal rows and surrounded by hedges, test annuals and display favorites are grown which might not yet be available to the public. Again, there are accessibility issues within this garden because of the lack of paved pathway surfaces.

Cylburn Arboretum Conceptual Master Plan

There are also weak connections to the adjacent Formal Garden and to the Mansion, due to the more recent creation of an informal Shady Garden.

To the west of the AAS Garden between the Mansion and the Greenhouses is a collection of eight distinct 500-1000 square foot gardens: the Julie Smith Garden, Three Sisters Garden, Moudrey Conifer Collection, Daylily Freestate Garden, Naomi Camper Memorial Garden, Rose Garden, City Backyard Demonstration Garden, and the Sauerborn Memorial Garden. These gardens line the perimeter of a half-acre square overgrown tree nursery that currently resembles a wooded lot. This wooded area, once selectively cleared, has much potential to serve as an expansion of the garden zone. A flowering shrub collection to the south of this area could serve as a gateway into the Arboretum and an ideal controlled picnicking area for both the volunteer work groups and the general visiting public.



III. DESIGN DEVELOPMENT

A. Design Guidelines

The following design guidelines for Cylburn Arboretum were derived from the four main qualities of successful public places, as developed by Project for Public Spaces. PPS is a nonprofit organization dedicated to creating and sustaining public places that build communities. The following qualities were used as a benchmark for the assessment, and the design team reviewed the park based on these qualities. Much of the information below can be found at www.pps.org. Many of the following qualities are already inherent in Cylburn, but it is important to highlight them in the Master Plan to ensure that they continue to be accommodated in the future. Although somewhat broad in concept, the following elements are essential in establishing a framework for carrying out the vision for Cylburn Arboretum.

Access + Linkage

The accessibility of a place can be judged by its connections to its surroundings, both physical and visual. Physical accessibility includes not only features for individuals with disabilities but also multiple connections to the community. Successful public spaces are easy to get to and get through, and are visible both from a distance and up close. Visual accessibility is important in terms of the Arboretum's image as well as the feeling of safety and comfort for its users.

Key Considerations:

- how well-connected the Arboretum is with its contextual surroundings
- whether there are sidewalks leading to and from the adjacent areas and ease of pedestrian accessibility into and throughout the Arboretum
- the function of the space for people with special needs
- roads and paths taking people through the space to where they actually want to go
- transportation options and transit stops

Activities + Uses

Successful public spaces such as Cylburn accommodate activities for a wide variety of users, should appeal to different age groups, providing an environment that is attractive to children, teens, young singles, families and the elderly. Having something for people to do gives them a reason to come to a place, and to return as well. The more activities there are for people to take part in, the better. It is important to continue to provide various well-managed activities for the variety of people that visit the Arboretum.

A consequence of well-used, active spaces, however, is that they receive a lot of wear and tear, so it is important that elements within Cylburn such as benches, pathways and plant materials are considered for their longevity. Emphasis should be placed on using quality, aesthetic materials that are easy to maintain.

Key Considerations:

- the variety of people using the spaces

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- providing visitors with a choice in the various opportunities available for recreation
- which parts of the spaces are or are not used
- the presence of management over the space
- providing courses in nature, art, photography
- developing more group projects involving community
- holding additional seasonal events

Comfort + Image

A place that has a good image is comfortable and presents itself well. Comfort includes perceptions about cleanliness and safety. If a place feels unsafe and doesn't offer comforts for users, then they will not be well-utilized for positive activity. People are attracted by the presence of other people, and visibility into a space. In addition to psychological comforts, physical comforts are also essential. Availability of seating is probably most critical, followed by drinking fountains and accessible restroom facilities.

Spaces that are attractive and well-organized are more likely to be successful as places than others. People are most comfortable using any open space if there is a clear sense of organization and apparent hierarchy of sub spaces or activity areas. Attention to detail in a space can intrigue people, and signal that someone took the time and energy to tailor the environment to the visitor's needs. Spaces that are filled with clutter or are disorganized are disconcerting to visitors. Similarly, people will use a space and better care for it themselves if it already appears to be well cared for.

With further regard to image, facilities that respond to their surroundings and protect their historic resources are going to be better integrated into the community, becoming more of an identifiable part of it.

Key Considerations:

- the first impression upon arriving at Cylburn
- variety in seating options
- litter-free, obviously well-maintained spaces
- whether or not there is a security presence on site
- the presence of management over the space
- whether vehicles dominate pedestrian use of the space, or prevent them from easily getting to the space

Sociability

A place that fosters social activities helps give people a stronger sense of place or feel an attachment to their community. A sociable place is one where people want to go to observe, meet, and celebrate interaction with all kinds of people. Elements and facilities within places are integral to the social process and should be located in such a way as to encourage interaction among users.

Key Considerations:

- whether people use the space regularly and by choice
- how well people who use the Arboretum know each other



- whether the users regard the Arboretum with pride, and bring their friends and relatives to see it
- mixes of ages and ethnic groups that generally reflect the community at large
- whether or not people are litter-conscious

B. Goals + Objectives

As mentioned in the Introduction, three main goals have been identified as the focus of this Master Plan based on Cylburn's opportunities and challenges. The first is to satisfy immediate functional needs and deficiencies caused by the renovation of the Mansion, changes in ADA requirements, and the needs of the existing educational programs. Based on research, visioning, facilities and site analyses, and the development of design criteria, the following facilities program objectives should be considered in reaching this goal:

- facilities for Horticultural Division staff and maintenance crews
- equipment and supply storage
- exhibit space for natural history collections
- indoor classroom for school and adult programs

The second major goal is to serve Cylburn's visitors more effectively. Critical to its success are the following site-related objectives:

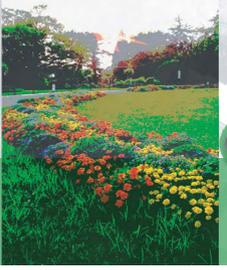
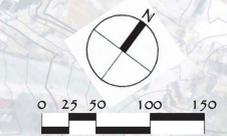
- orientation + identification: entry design + signage
- wayfinding: vehicular + pedestrian circulation, directional signage
- interpretation: information/orientation kiosks, signs + exhibits
- comfort: food/water, restrooms, seating, lighting

The third, to expand Cylburn's overall programs and facilities in an effort to establish it as a major facility/attraction for the City and as a major municipal arboretum, on par with public gardens in other major cities, involves the following additional facilities objectives:

- visitor orientation center
- gift shop + café
- education and event center with an auditorium
- library

As part of the planning process, the relationships of the major spaces around the Mansion, the Carriage House, and Greenhouses were evaluated. These spaces were broken down into six zones: Entry and Arrival, Visitor Parking, Orientation and Education, the Flowering Shrub Walk, the Working Zone, the Meditative Gardens, and the Historic Campus. The functional relationship diagram on page 19 depicts the relationship of these zones to each other.





Conceptual Diagram
 Cylburn Arboretum
 Baltimore, Maryland
 November 2004



V. MASTER PLAN RECOMMENDATIONS

In recent years, Cylburn Arboretum has been struggling with property maintenance problems, declining infrastructure, insufficient visitor and staff facilities, and serious circulation problems. In response to these and other issues, the Conceptual Master Plan for Cylburn Arboretum was created to portray the visions to preserve, restore, and enhance the site's natural and historic resources in an effort to adjust to the increasing demands of current use.

The first portion of the following section describes concepts for the renovation of existing historical facilities and the design of new orientation and educational facilities. The second portion explains ideas for developing an overall circulation system, both vehicular and pedestrian, for renovating historic features and gardens, and for creating new site program elements. The projects described are intended to be implemented in phases over the next few years as funds become available.

A. Proposed Facilities Improvements Summary

The Master Plan for Cylburn Arboretum recommends several new facilities to accommodate existing and future staff and visitation needs. New buildings include an Information Kiosk, Orientation Center, Education and Event Center, and Wedding Pavilion. It is suggested, pending a more detailed collections assessment, that the Maryland Ornithological Society (MOS) Bird Museum and Cylburn Nature Museum be relocated from the upper levels of the Mansion to the Carriage House and new staff/volunteer and classroom facilities be provided at the Greenhouse.

The new facilities are planned as individual buildings in order to accommodate future phasing needs and provide individual donor opportunities. It is important that each building be designed to integrate with the landscape and create a seamless and accessible visitor experience while minimizing the impact to the existing site. Given the mission of Cylburn Arboretum, it is proposed that new construction employ sustainable, 'green' building technologies and the use of materials indigenous to the site such as wood and stone.

Information Kiosk

The Information Kiosk, located adjacent to the proposed visitor parking area, should be a small covered pavilion which will provide maps and brochures for visitors prior to beginning their visit. The Information Kiosk will accommodate visitors who prefer self guided tours, have limited time, or simply wish to gather information on Cylburn or upcoming events.

Orientation Center

The proposed single level 1500 square foot Orientation Center might include an information station, gift shop, café, comfort facilities and storage. The Orientation Center should supplement the Information Kiosk and provide visitors the opportunity to speak with an individual and learn more about Cylburn as they begin their visit. The gift shop will offer an additional revenue source for Cylburn and cater to the interests of visitors. A small café will provide expanded visitor services by offering

prepackaged snacks and drinks. Orientation material should be provided in the lobby near the information station.

Education + Event Center

The primary functions of the Education Center are an auditorium, a multipurpose classroom and library. The facility could serve as a potential primary meeting place for the Horticultural Division of the Baltimore City Department of Recreation and Parks, in addition to providing educational space for large groups either visiting or affiliated with the Arboretum. Based on this assumption and the potential that the facility could be built in the current maintenance yard site if it is relocated, the auditorium would be a large flexible space to accommodate approximately 200 people. The multipurpose classroom is planned to accommodate 50 people and may adjoin the auditorium for additional flexibility. The library will be used primarily for research. Additional functions to be housed in the Education and Event Center include offices, restrooms, support and storage space. A 130-person auditorium could be designed if the building program elements change and could be located more centrally if future site constraints develop.

The Education and Event Center would provide an opportunity to extend the services provided by the Arboretum and to provide more exposure to outside groups. Due to the requirement for very flexible space to accommodate a variety of uses, the Education and Event Center is suggested to be a single story building with a total area of approximately 8,000 square feet.

Carriage House + Nature Museum (see pages 25+26 for floor plans)

Pending a collections assessment, it is recommended that the Carriage House be upgraded and renovated to house the MOS Bird Museum and the Cylburn Nature Museum. Planned upgrades to the Carriage House might include the addition of vertical circulation elements (stairs and elevator) for access to the second level and enclosing the existing carriage porch. Renovations include some reconfiguration of the interior space and new finishes to accommodate the exhibit spaces. The mechanical and electrical systems should be completely upgraded to provide an appropriate environment for artifacts. Support functions to be located in the Carriage House include visitor comfort facilities, a small library and office space for the Education Director. Once complete, the Carriage House would have an area of over 5,500 square feet on two levels, with over 2,000 square feet allocated to exhibits. The planned renovations would provide much needed modern facilities, while maintaining the historic nature of the building.

Prior to the completion of the Orientation Center, visitor amenities such as a small bookstore and vending area will be located in the Carriage House within the newly enclosed carriage porch. These functions will be relocated to the Orientation Center once it is complete with the space in the Carriage House to be used for expanded museum services.

Greenhouse Addition (see page 27 for floorplan)

The Greenhouse Addition is required for staff and volunteers currently housed in the Carriage House. These facilities would include men's and women's locker rooms,





Figure 12.



Figure 13.

toilets and showers for 15–20 people each. The Greenhouse Addition would include a classroom that will accommodate 25–40 students. One bay of the existing greenhouse could also be used for educational purposes (Figure 12). The Greenhouse Addition is planned to be approximately 2,500 square feet and could be located on the east end of the existing head house. Additional storage space could be accommodated at this location if the current need persists or increases.

Wedding Pavilion

A Wedding Pavilion is suggested as a small open air structure that would serve as a setting for wedding ceremonies at Cylburn Arboretum (Figure 13). The pavilion could also serve as a focal point looking north from the formal garden.

B. Estimate of Probable Facilities Construction Costs

A preliminary opinion of probable construction cost was developed for each of the new facilities planned for Cylburn Arboretum. Estimates were generated by assigning square foot costs to the individual spaces that comprise each building. The square foot costs are based on current industry standards and experience with similar projects.

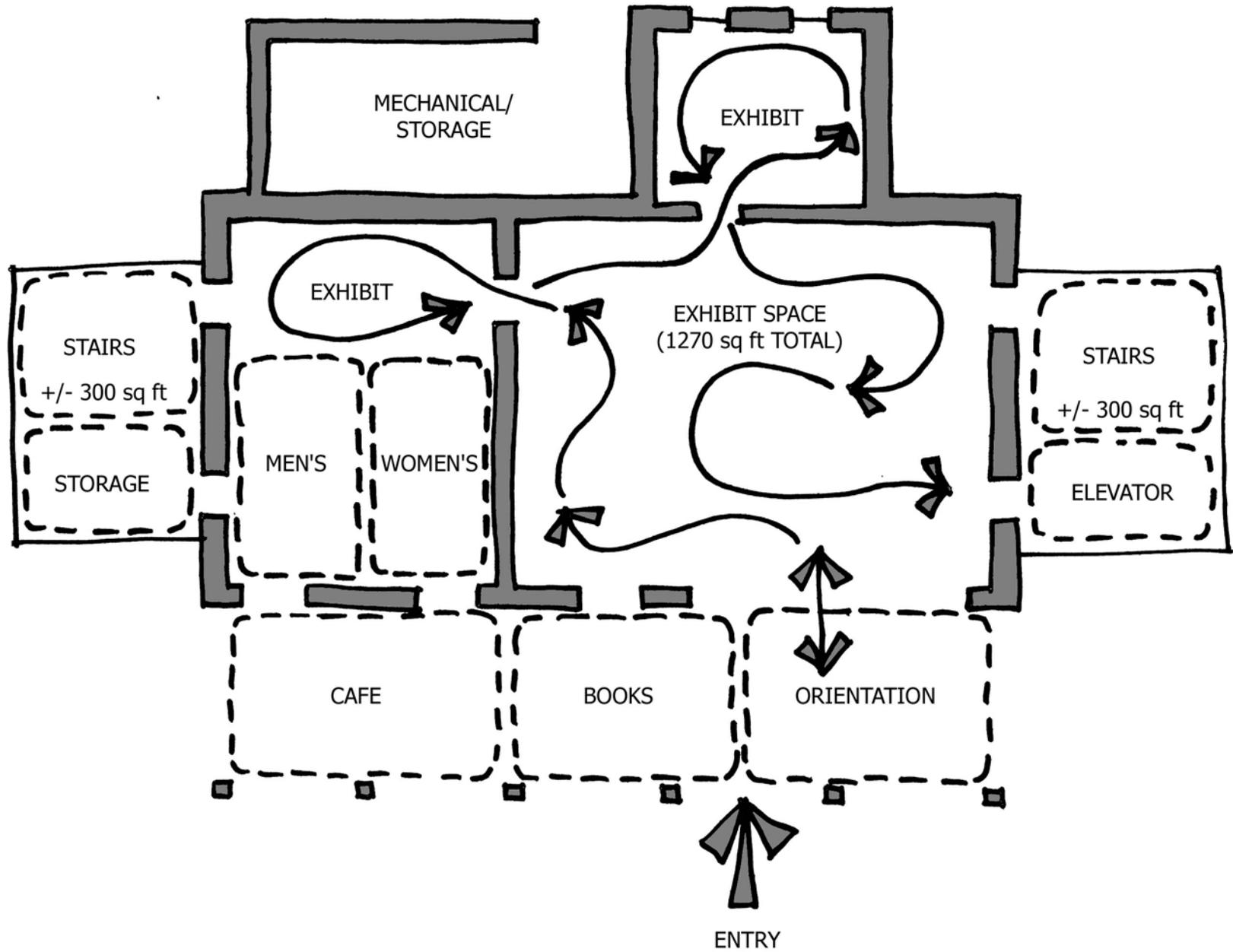
These estimates represent the median costs for typical projects of this nature. For example, auditorium space can range from \$200/sf for a simple flat floor space to \$300/sf or more for a sloped floor space with sophisticated lighting and acoustical controls. Given the above, \$250/sf was used in this estimate for auditorium space. This level of costs will provide for good, functional spaces and is based on our current understanding of the project. If special finishes or controls are ultimately desired, these numbers should be adjusted accordingly.

In all cases, these estimates represent construction costs based on 2004 dollars. Future economic conditions are not factored in, nor are any owner contingencies included. To project these costs into the future an escalation factor should be added. Based on our current economy, a prudent escalation amount would be around 6% per year, compounded annually. Owner contingencies should range from 10–15% based on the type of construction. Generally, 5% is adequate for new construction, whereas, 10% is more prudent for a renovation/restoration of a historic building. Costs associated with designing and fabricating exhibits for the museums are also excluded as these costs can vary widely based on the level of sophistication.

Below is an estimated total construction cost per facility; see Appendix E for a more detailed costs breakdown.

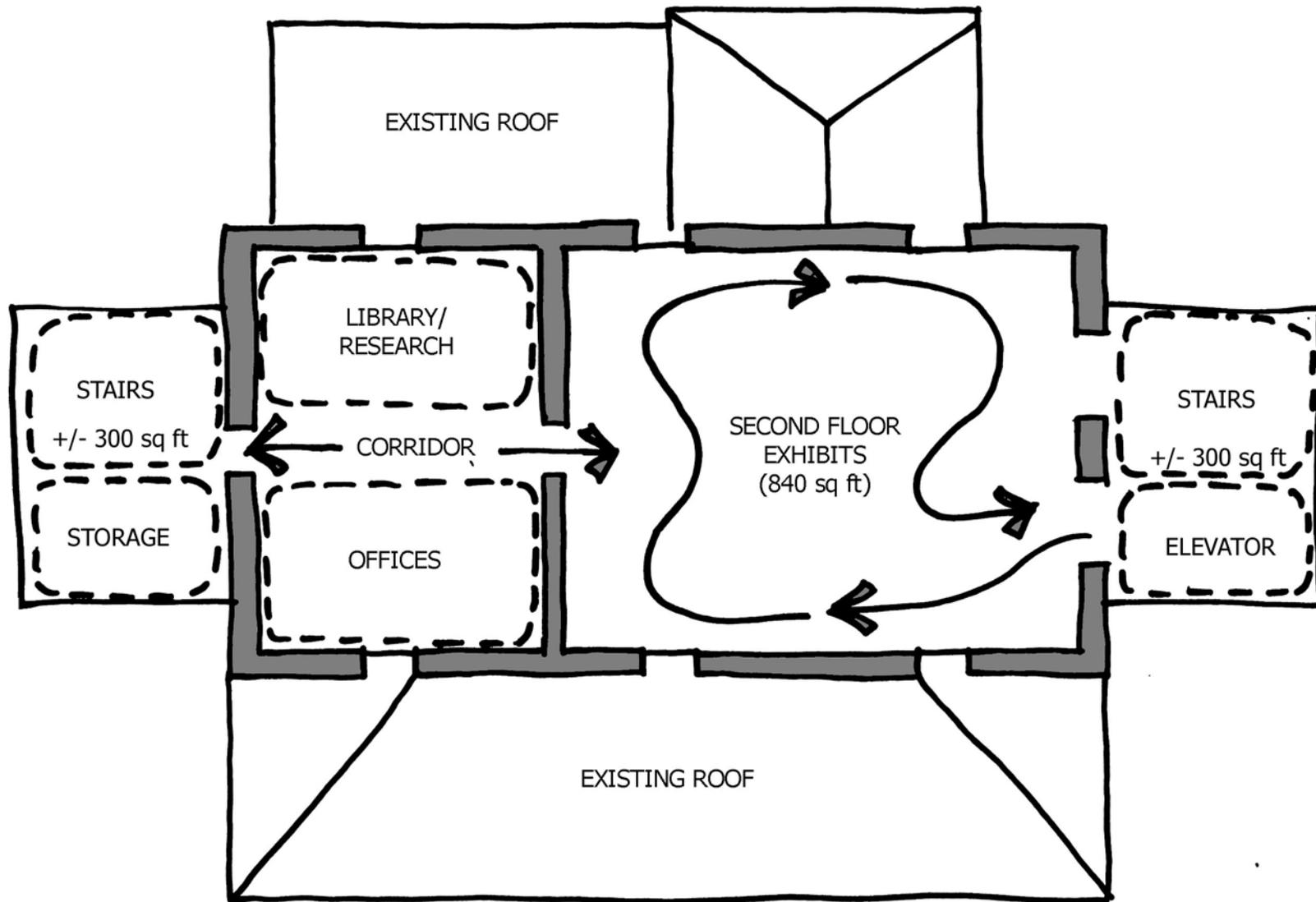
<i>Information Kiosk + Orientation Center</i>	<i>1800 SF</i>	<i>\$390,420</i>
<i>Education Center</i>	<i>8040 SF</i>	<i>\$1,985,088</i>
<i>Carriage House + Nature Museum</i>	<i>5535 SF</i>	<i>\$1,079,052</i>
<i>Greenhouse Addition</i>	<i>3514 SF</i>	<i>\$594,360</i>





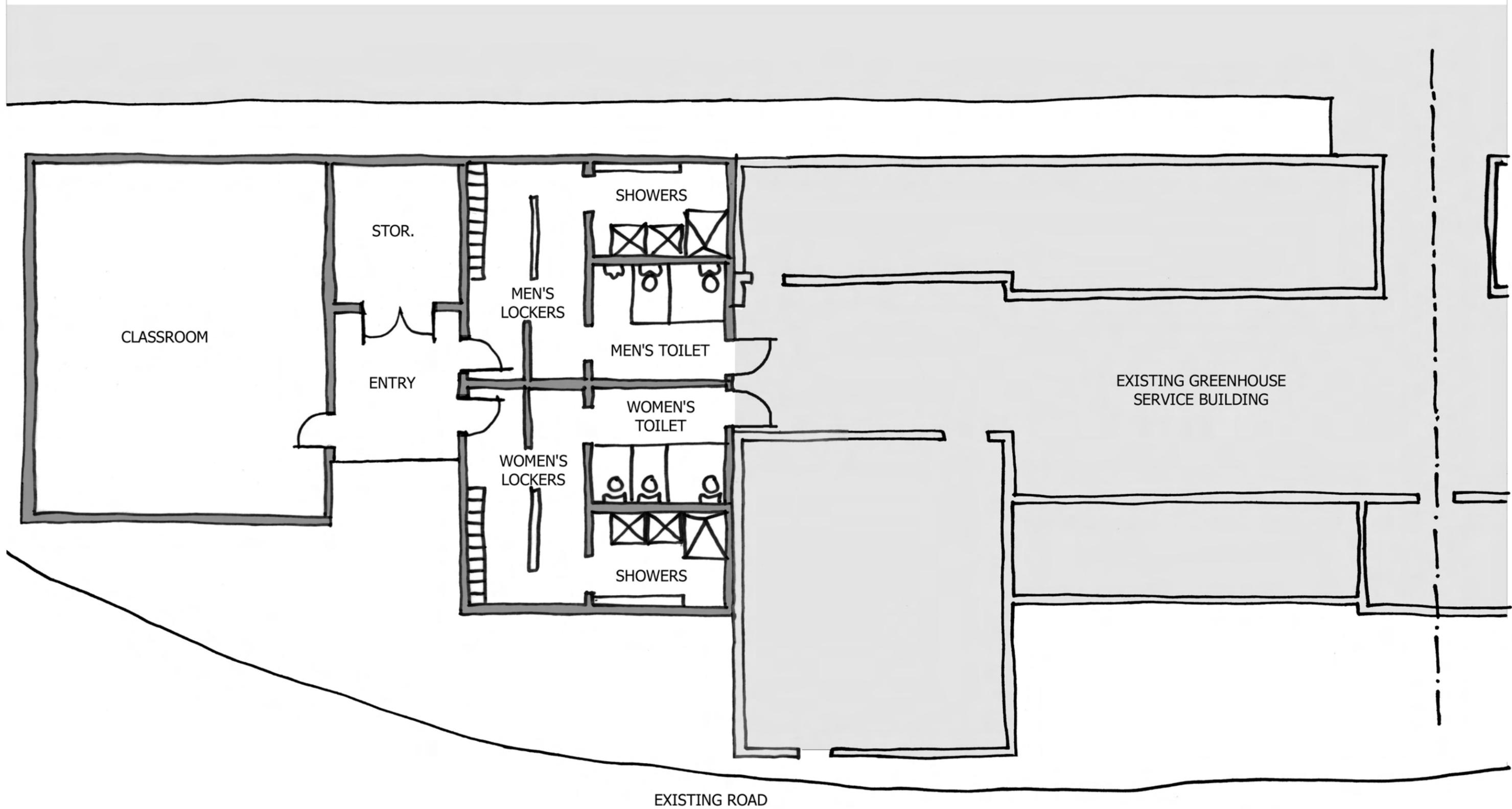
Cylburn Carriage House, Baltimore, Maryland
 First Floor Plan

Scale: 3/32" = 1'-0"



Cylburn Carriage House, Baltimore, Maryland
 Second Floor Plan

Scale: 3/32" = 1'-0"





C. Proposed Site Improvements Summary

Cylburn Arboretum as a public garden has many assets: its beautiful setting, the production greenhouses and maintenance areas, the Victorian Mansion, period gardens, and mature rare plants. As more activities, buildings, and spaces are planned for the site, it is imperative that they be developed without negatively impacting these assets or the visual quality of the Arboretum. Historical elements should be preserved and enhanced, and Cylburn's quiet, majestic sense-of-place should be maintained. Using the design criteria established earlier, the intent of this section of the report is to give ideas and design recommendations for implementing site and landscape goals for the Arboretum. The following text and Master Plan rendering aid in establishing a framework, and should serve as a guide once the planning for the Arboretum moves into the actual design phase.

As mentioned in the Design Development section of this report, the spaces around the Greenhouses, Carriage House and Mansion have been categorized into six programmatically different zones: the Entry and Arrival Zone, Visitor Parking, Orientation and Education, the Flowering Shrub Walk, the Working Zone, the Meditative Gardens, and the Historic Campus.

Entry + Arrival

One of the primary goals of the Arboretum's Master Plan is to establish a clear 'sequence of experiences' for the visitor. This should be done from the moment the Arboretum's 'gateway' first comes into view from Greenspring Avenue. The entry is the best opportunity to introduce the site by showcasing its character. Materials and layout of the entrance features should be carefully considered to express the quality of the Arboretum beyond.

Although several alternatives were explored by the design team for Arboretum entry and exit road layouts, the one that is the least obtrusive and impacting was chosen to be reflected in the Conceptual Master Plan. It is also the option which maintains the entrance location as planned by the Tyson family when the Victorian estate was originally designed.

The focus of the entrance improvements should be to make it more visible, safer, and easier to drive through. Combining an improved entrance with a wrought iron gate, well-designed signage, and expanded, bolder sweeps of display plantings would resolve this issue. Visibility could also be greatly enhanced by pruning back the large trees at the front of the property on the south side of the entrance drive. The radii on either side of the road should increase significantly to accommodate larger trucks and to promote safer, easier access into the site. The stone entry piers could increase in scale and be moved slightly further apart from each other to allow for an expanded roadway and the potential incorporation of stone entry walls and improved signage. Assuming the current location for Cylburn's entrance and exit road is maintained, it will need to be widened beyond 16' to comfortably accommodate opposite lanes of traffic. As shown on the Conceptual Master Plan, it is proposed that the entry drive will no longer terminate at the Mansion, but will be made more curvilinear and less formal so as to extend, enhance and dramatize the visual arrival experience of visitors. This 'conceal and reveal' concept suggests that planting be incorporated strategically along the drive, concentrated in some areas to direct important views, and planted

Cylburn Arboretum Conceptual Master Plan

more sparsely in other areas to respect and highlight the natural openness of the meadows. Alternatives for providing a separate exit or service drive might be studied in more detail in the future if the need arises.

Pedestrian access was also a key consideration in developing concepts for the new entrance into Cylburn. A separate pedestrian/cyclist path could alleviate the conflict with cars that will most likely arise with increasing visitation. Paved sidewalks should be provided on either side of the entrance drive, which could then merge into one wider path beyond the gated entry. A meandering path along the woodland edge could provide an exciting experience for both pedestrians and cyclists.

Visitor Parking, Orientation + Education

The current visitor parking consists of a fairly small asphalt-paved area immediately adjacent to the entrance road. Overflow and bus parking occupy a grassed space next to the paved zone. Because of the insufficient amount of parking, visitors resort to lining the entrance drive during larger events. More spaces should be planned for in a way that will not deteriorate the character of the site. The large area of flat land near the fork in the entrance road would serve as an excellent opportunity area for future expanded parking. Careful consideration should be made, however, to reduce visual impact through sufficient screening and the use of pervious paving materials. In addition to a main lot, there is sufficient space to provide reinforced turf overflow parking on adjacent lawn areas. In any case, parking should be consolidated as much as possible to preserve the integrity of Cylburn.

As visitors traverse the improved entrance drive, their first experience of Cylburn beyond the gateway will be that of its rolling meadows edged with lush woodland. As they near the end of the main entrance road, their view will be focused on a small cluster of orientation buildings nestled into the landscape. The drive would conclude in a loop road with a drop off and an entrance into an amply-screened porous parking area. The parking as shown on the Conceptual Master Plan respects the land by being integrated into the curves of the existing topography, and is designed around the large specimen oak and row of hedge maples along the service drive. Enough parking will be consolidated in this location to serve daily visitors to the Arboretum; for special events such as weddings and large meetings, overflow and bus parking could be accommodated adjacent to the existing service road and should be well-screened. Both the drive to the Mansion and the service road will be maintained for staff access and deliveries, but should be made off limits to visitor vehicles.

It is proposed that the visitor parking be designed not only as a place for parking cars, but also as both the first horticultural and sustainable design exhibit that Arboretum visitors will experience. It is the goal that this ‘demonstration garden’ provide environmental education through the integration of storm water bioswales, a storm water retention area, and wetland planting (Figure 14).

Visitor orientation should be established before arriving at the Mansion through clear signage, guiding pedestrians to various destinations throughout the site. After experiencing this outdoor exhibition, visitors will be clearly directed from the parking area to an Information Kiosk, which will provide an overview of the gardens and other general information. The kiosk and Orientation Center enclose a central plaza containing ample seating and a fountain. A simulated streambed and associated



Figure 14.



Figure 15.

planting (Figure 15) connect it via a special paved pathway to the Education and Event Center, which features an outdoor educational classroom for children.

Flowering Shrub Walk

Cylburn Arboretum provides a variety of spatial experiences from its collections along the woodland perimeter, to its grand lawns and historic gardens. Establishing a clear sequence of events from the moment visitors arrive is key in helping them realize the full potential of the Arboretum. The focus should be to establish a stronger connectivity among the site's various resources with a loop path system, consistently paved walking surfaces, and clear directional and interpretive signage.

The graceful loop path of the Flowering Shrub Walk is the first of a larger loop path system that will reveal a tour of the gardens. It is intended to act as a transition space between the visitor orientation site and the rest of the Arboretum. Flowering shrubs and other planting displays (Figure 16) with informational signage should be featured along the walk (Figure 17), while existing vegetation should be preserved and even enhanced as a means of setting up key views. Opportunities will be provided for visitors to exit the path at various locations based on the destination they are trying to reach, be it the Mansion, the Greenhouse classroom, the Carriage House, the gardens, or woodland trails (Figure 18).

The Flowering Shrub Walk will set the precedent for a carefully-orchestrated network of paved paths, seating areas and outdoor plazas that are proposed for all of Cylburn. The path system should be designed not only to accommodate all types of visitation, particularly those visitors with disabilities, but also to facilitate the needs of the Arboretum staff and volunteers. The goal of creating a clear, eventful sequence of garden experiences for the visitor, through natural, understated spaces to highly-designed, formal spaces, is of the utmost importance in maintaining, and heightening the experience of the Arboretum.

Any new plant collections in this area should be consolidated and appropriately located. The West Lawn adjacent to the Mansion should be preserved as a quality open space. It is recommended that future design efforts be consolidated around the perimeters. Tree planting should consist of a few large specimen trees that could provide shade relief and help frame new views while not overwhelming the grandeur of the Mansion. As illustrated in the character sketch below, a view from the Flowering Shrub Walk reveals the combination of existing stately specimen trees and the proposed perennial garden which can serve as a fantastic setting for the majestic Mansion.



Figure 16.



Figure 17.



Figure 18.



Meditative Gardens

The old nursery site, after being selectively cleared to return it to a more manageable state, would prove an ideal location for an expansion of the campus gardens and a transition space from the more recreational side of Cylburn to that of the more functional side. There are significant opportunities here to better organize the existing Conifer Collection and perimeter gardens, and to educate visitors about rare plants. Paved, winding paths lead up from the Flowering Shrub walk through this Meditative Garden to the proposed Greenhouse Addition, where students and garden clubs may learn about the workings of the greenhouses. In the center of the Meditative Garden, a small interpretive plaza is proposed on axis with the AAS and Formal Garden. Should the Formal Garden expand in the future, this site could be ideal for relocating the Children's Garden, and perhaps, the Sensory Garden.

Working Zone

An expansion of the greenhouse and maintenance facilities is proposed within this Master Plan, although there is the slight possibility of the maintenance yard being relocated off-site in the future. Should this occur, the Education and Event Center and some additional parking could be planned for in this flat area as an alternative to its location shown in the Visitor Parking, Orientation and Education zone of the Arboretum.

Historic Campus

The path system through the historic campus needs significant improvement to meet accessibility standards. Major paths should be ten feet wide at a minimum to double as access routes for garden maintenance trucks. The driveway along the side of the Mansion should be closed off and perhaps paved with brick or stone to make it feel more pedestrian. Paved paths should be incorporated into the AAS and Formal Gardens to meet accessibility standards. The vegetable garden which is currently located next to the greenhouses could also be moved to share the AAS garden space, which can be consolidated. Establishing a better visual relationship from this area with both the Carriage House and Mansion is key.

More direct access into the Formal Gardens from the Mansion is recommended. Being careful to preserve the East Lawn, the Formal Gardens should expand to meet the existing fountain, with pathways helping to enclose the random tree plantings adjacent to the Mansion.

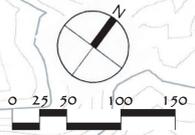
Improved plantings and interpretive stations on the history of the gardens should be located in key areas to reinforce the educational component of the Arboretum. Relocating the Sensory Garden and installing a wedding pavilion would create the formal terminus the Formal Garden deserves. Adjacent to the pavilion would be a flexible lawn space for both ceremonies and receptions. Storage space for equipment, food, drink and electrical hookups should be located nearby in conjunction with the wedding facility.



D. Estimate of Probable Site Construction Costs

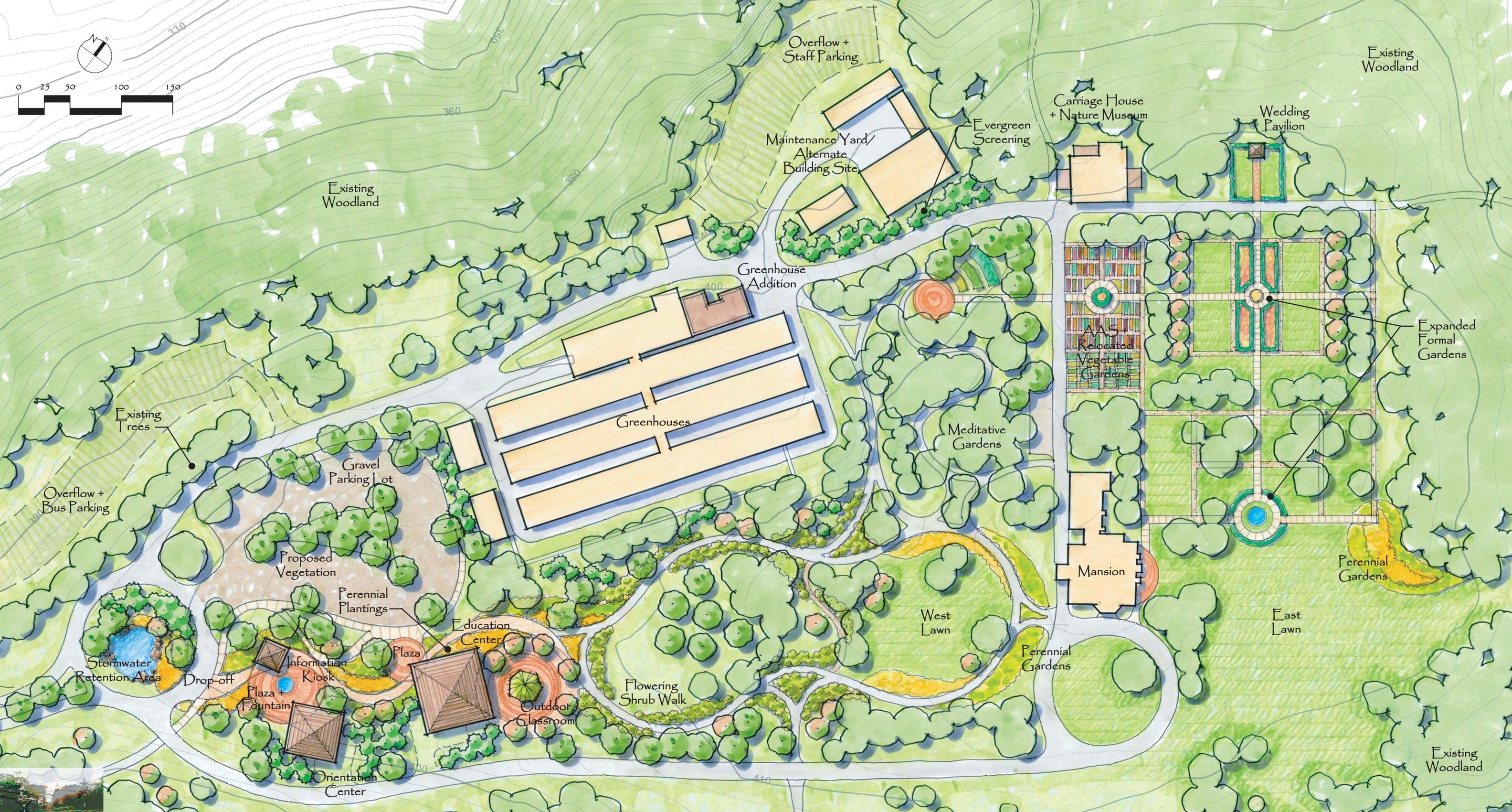
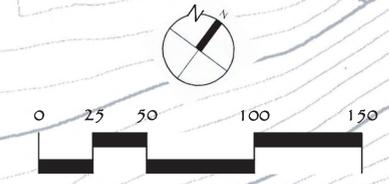
<i>Expanded Entrance + Drive</i>	\$517,155
<i>Visitor Orientation + Parking</i>	\$980,619
<i>Flowering Shrub Walk</i>	\$65,706
<i>Meditative Gardens</i>	\$77,171
<i>Formal Garden Expansion</i>	\$113,640





Conceptual Master Plan

Cyburn Arboretum
 Baltimore, Maryland
 November 2004



Building Area Enlargement

Cylburn Arboretum
 Baltimore, Maryland
 November 2004

VI. APPENDICES

APPENDIX A: Summary Program

Following is a list of potential program elements as outlined by the Cylburn Arboretum Association. These, and other program elements which arose through the course of the Master Plan framework process, are discussed in more detail in the Master Plan section of this report. Additional program items may be addressed in a later phase.

Space Needs Overview:

- MOS Bird Museum and Cylburn Nature Museum
 - Exhibit space
 - Offices
 - Library
 - Space for researchers
 - Storage
- Wedding reception area/pavilion
- Classroom
 - Indoor
 - Outdoor
 - Greenhouse
- Picnic area
- Lunch facilities
- Locker room facilities, showers, lunch area
 - Greenhouse staff, volunteers, program visitors
 - Horticultural Division, City landscape crews
- Storage
 - Volunteer groups
 - Cannas, other plant materials
 - Exhausted pesticide locker
 - Tool lockers for Naturalist
 - Replacement for storage areas lost to renovation of mansion
- Maintenance facility for building repair staff
- Plant nursery area and cold storage
- Plant collection gardens
- Gift shop
- Visitor orientation
- Light refreshments/cafe
- Laboratory equipped for soil studies, urban forestry management

Non Space Needs:

- New entrance for better, safer traffic flow and site identification
- Parking for cars, small buses, large buses
- Pedestrian pathways
- Irrigation
- Exterior lighting for evening events
- Signage

Cylburn Arboretum Conceptual Master Plan

Identification
Way finding
Interpretation



APPENDIX B: Charrette #1

A. Agenda

July 15, 2004
Cylburn Arboretum

- 8:30 Arrive
- 9:00 Introductions
- 9:10 Outline process for the day + Review of project schedule
- 9:20 Powerpoint show of similar facilities + Presentation of site analysis
- 9:50 Break
- 10:00 Goal setting/visioning for Cylburn + General discussion
- 11:30 Summarize priorities
- 12:00 Lunch break
- 1:00 Design team work session
- 2:00 Regathering of entire group to review concepts
- 3:30 Select concept(s) to develop for next charrette

B. Meeting Report

CHARRETTE OVERVIEW

To kick off the day-long Cylburn Arboretum Master Plan Charrette, a power point presentation was given by MRA and GWWO. The presentation depicted various regional parks, arboretums, and gardens as precedent studies for comment and discussion among the charrette attendees. In general, it was noted that the gardens featured in the presentation were very well-maintained and provided adequate and obvious security enforcement. They exhibited clear indications of suggested sequences of experience and designated activity areas through appropriate signage and various paving material changes, and provided opportunities for education through exploration and natural discovery. Alternate examples were shown which featured the primary emphasis either on a central architectural feature such as a historic mansion, or the actual site and its gardens.

Precedents of more specific site elements such as entrances and gateways, parking treatments, and accessibility were reviewed and discussed briefly. It was agreed by all that the Arboretum needed an expanded entrance with better signage as well as improved visitor orientation and circulation. It became evident that the underlying



Cylburn Arboretum Conceptual Master Plan

overall goal of the Master Plan should be to accommodate an increased maintainable site in cooperation with the city and the surrounding community.

Following the presentation, charrette attendees were asked a series of questions regarding the Arboretum's current visitation and what were considered the most and least 'sacred' things at Cylburn. First, it was expressed that the site's diverse environment and unique sense of place, which provides a quiet reprieve from the city, should be protected. Subsequently, attendees agreed that the sacred 'historic campus' of the Arboretum – which includes the formal gardens and its adjacent collections, the lawn, a few specimen trees, and the Mansion – should not be significantly altered, but perhaps be reorganized to create a better sequence of experiences. Finally, attendees noted that the site's current educational programs and existing horticultural functions should be enhanced with the possible long-term addition of an all-encompassing educational/horticultural facility.

During the lunch break, three different site schemes were developed by the design team. All concepts shared several common elements or ideas, including a shuttle system from a potential Sinai parking site, the preservation of the historic campus, and improvements to the greenhouse facilities to hold educational programs, storage and restroom facilities for staff. All three concepts also kept the Mansion predominantly administrative, and indicated a 'flex' space between it and the Carriage House for potential garden expansion and a wedding pavilion.

Through the three options, different ideas for retaining, expanding, and relocating the entrance drive were proposed. The Service Yard was shown either remaining in its current location or being moved to the center of the site, or off Cylburn Avenue. Various options were explored for the location of a visitor orientation center as well as a future horticultural education facility. Upon review and discussion of the three alternatives, it was decided that the design team would pursue and further develop Options 1 & 2 (see attached), which will be presented at Charrette #2, tentatively scheduled for early September 2004.

The following is a more in-depth documentation of the comments made by the Charrette attendees:

FEEDBACK / THOUGHTS (PowerPoint Presentation)

1) PRECEDENT STUDY

A. Brookside Gardens:

- ❖ Gardens / exhibits very well connected
- ❖ Sequence of experiences
- ❖ Variety of paving / paths/ textures that work together (natural + clean, stone)
- ❖ Clear sense of direction to take
- ❖ Well interpreted/ communicated to the visitor
- ❖ All plants should be tagged
- ❖ Like pathway textures
- ❖ Greenhouse is most important feature

B. Longwood Gardens:

- ❖ Security personnel on grounds at all times
- ❖ Concern with picnicking at Cylburn



- ❖ Designated picnic areas
- ❖ Maintenance/ grounds management particularly with Picnic Areas
- ❖ Larger maintenance staff budgets + personnel requirements

C. 4-H Children's Garden:

- ❖ Definitely a need at Cylburn for Children's Garden
- ❖ Wooden structure and water feature costs?
- ❖ "Touch" gardens are desired at Cylburn
- ❖ Bill says ENTIRE arboretum should be appealing to kids, not just one special area (playground vs. arboretum/ interactive natural area)
- ❖ Arboretum should be an exciting learning area for kids
- ❖ Consider spaces for student groups (ages 3-18)
- ❖ Natural discovery area is *key*

D. Louis Ginter Botanical Garden:

- ❖ House was formerly private residence
- ❖ Hosts many weddings
- ❖ Enter through Education Center, then gardens, finally mansion
- ❖ Jeffersonian gardens → Rigid style of planting, formal
- ❖ Specialty areas, specific educational practical purpose.

E. National Arboretum:

- ❖ Much grander scale, but has applicable elements
- ❖ Wood chip paths bordered by stone

F. Hershey Gardens:

- ❖ Excellent fundraising program

G. Hampton House:

- ❖ Draw of the site is the *Mansion*
- ❖ Weddings take place in the orangerie
- ❖ Smaller wedding pavilions are desirable
- ❖ Still consider larger structures that could shade and seat about 200 people

H. Plum Orchard:

- ❖ Building is secondary, more focus on site

2) ENTRANCE + GATEWAYS:

- ❖ Deer are a minor concern at Cylburn, not significant damage at this point
- ❖ Entrance drive should be able to accommodate larger vehicles (buses, etc.)
- ❖ Make sure scale of features is appropriate for the site
- ❖ Discourage business traffic, trucks, and buses from going beyond parking → physical barrier? Signage?
- ❖ How will large groups approach the site?
 - Make sure design recommendations fit within city ordinances, must be enforceable
 - Design a very *maintainable* site
 - Children are learning at an early age, they should not be excluded in any part of the arboretum

- Grant Park (NYC) → Children’s garden right across from wedding pavilion → *avoid*
- What is city’s goal in protecting Cylburn?
- Politics affecting ordinances
- No zoning category in Baltimore City for parks → *major concern*
- Must get the support of “Green-minded” people/ politicians

3) PARKING TREATMENTS:

- ❖ Porous/ pervious paving
- ❖ White stone not recommended, more natural color instead
- ❖ Stabilized turf, ‘green pave’
- ❖ Important to maintain grass→ best for overflow parking, not constant use
- ❖ Should be fine for occasional big events (weddings, etc.)
- ❖ Becomes a bigger issue during rainstorms, is it worth it?
- ❖ 3 buses max. at one time currently, designated parking exists
- ❖ Could a small bus take handicapped people from parking to entrance?

4) VISITOR ORIENTATION:

- ❖ What is the level of orientation desired?

5) PATHWAY TYPES:

- ❖ Accessibility issues
- ❖ Paving materials, coverage overhead
- ❖ Improved circulation → more visitors
- ❖ Avoid the ‘racetrack’ approach, encourage visitors to explore as much as possible

6) FOCAL FEATURES

7) CHILDREN’S GARDENS

8) SPECIALIZED GARDENS

9) PICNIC AREAS

10) SIGNAGE + LIGHTING

11) WEDDING FACILITIES

12) DINING AREAS

13) SITE PHOTOS:

- ❖ Current entrance sequence should be preserved.

GOAL SETTING / VISIONING

1) Who comes to Cylburn?



- ❖ **Everyone** in Baltimore should be allowed to visit.
- ❖ Exclude drug dealers, hookers, etc.
- ❖ Casual visitors, educational groups, recreational walkers, dog walkers
- ❖ Currently a big vehicular / pedestrian (runners, speed walkers) conflict
- ❖ Bikers/ cyclists to be connected to Cylburn eventually from Jones Falls trail
- ❖ Seniors
- ❖ Both national and international visitors come
- ❖ Bird-watchers
- ❖ Artists, photographers and musicians
- ❖ Gardeners
- ❖ People seem to be very curious about the mansion
- ❖ Families
- ❖ Museum ‘goers/seekers’
- ❖ Apartment dwellers – ‘weekend gardeners’
- ❖ Healing / therapy needs
- ❖ Event goers
- ❖ Ambulance / Police breaks
- ❖ Are numerous people (parkers) that sit in their car& hang out- creates parking issues
- ❖ Bads: Homeless, those ‘showering’, transients
- ❖ Can’t currently go up to 3rd floor without private tour
- ❖ Large and small events
- ❖ Saturday morning Tae Chi group
- ❖ First time home owners → tremendous potential to educate them on gardening
- ❖ Meditators / readers
- ❖ Student groups
- ❖ Transit users: Good and Bad? Perception
- ❖ Concern with how to get inner city people here → public transportation
- ❖ Corporate groups - should be targeted as a revenue generator
- ❖ Weddings
- ❖ Retreats – people have it catered themselves
- ❖ Sinai visitors / patients/ employees (healing garden opportunities)

2) What would you consider the MOST SACRED THING / GREATEST OPPORTUNITY at Cylburn?

- ❖ Formal garden shouldn’t change
- ❖ “Historic campus” → preserve → don’t add new structure between carriage house, mansion, edge of formal garden
- ❖ Retreat from the city, an escape, ‘sense of place’, step back in time- sense of continuousness... away from downtown
- ❖ Quietness → don’t deflect from peacefulness of gardens → ‘sound’= children playing vs. ‘noise’= traffic
- ❖ Peace of environment/ place of reflection
- ❖ “Sacred”, historical, can interpret history in an unobtrusive way
- ❖ Museum aspect of mansion might be secondary to functional uses (meetings, etc.)
- ❖ Period furniture → Imaginative opportunities
- ❖ Its diversity is what’s sacred → Asset vs. Challenges.... Priorities
- ❖ Multiple attractions... where do we start?

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- ❖ Modernized gardens will attract more people
- ❖ Greenhouses are last set of productive ones in Baltimore
- ❖ The building itself should not become a museum
- ❖ Future separate building for meetings
- ❖ Mansion & site = freedom
 - Preserve and use 'as-is' - non museum-like (meetings, retreat, museum space- long term future)
- ❖ East lawn, open 'expansiveness' is sacred
- ❖ Historic landscape around fountain has been lost
- ❖ Weddings could violate lawn space
- ❖ Consider extension of a formal garden immediately adjacent to mansion, for convenience of wedding reception
- ❖ Weddings and receptions don't have to happen in the same space, however
- ❖ Consider relocating AAS garden
- ❖ Opportunity area for an outdoor room, 'venue space', is wooded former overgrown nursery
- ❖ Keep horticulture at Cylburn, but relocate service yard
- ❖ Get easement line on map
- ❖ Entire property is on the National Registry
- ❖ Don't forget some vehicular access adjacent to gardens for maintenance
- ❖ Currently vegetable garden exists near fork of road → distribute thru site, intrudes on open space, fence is unsightly
- ❖ Order of experiences is important
- ❖ Collections should remain as-is for the most part because of size of specimens.
- ❖ Japanese maple collection is sacred, planted by Mrs. Tyson
- ❖ Maples are secondary in sacredness
- ❖ Mansion 'arrival'
- ❖ Important specimen trees on west lawn
- ❖ Establish a flowering shrub walk → may be a good way to connect orientation center to rest of site
- ❖ Shuttle for special events vs. using valuable space taken up with parking
- ❖ Current parking complaints that parking is too far away
- ❖ Market days → 4 times a year, parking extends up around mansion drop-off
- ❖ 'Disguise' walking distance from car to gardens/house with beautiful paths/planting
- ❖ 'Front door' perception/ mindset

3) What would you consider the LEAST SACRED thing/ GREATEST CHALLENGE at Cylburn?

- ❖ Get commercial traffic off the same road as the service vehicles
- ❖ Consider moving maintenance yard to a location right off Cylburn Avenue
- ❖ Fencing
- ❖ Visual experience when arriving
- ❖ Open areas and spaces that are enclosed – relationship of spaces

4) What is one thing you would change at Cylburn if budget were not an issue?

- ❖ Gift shop – gardening driven
- ❖ Japanese garden



- ❖ New plumbing/ irrigation, current system are hose bibs (disruption with irrigation – daytime)
- ❖ Teach public water conservation
- ❖ Completely reorganize gardens for a sequence of themes
- ❖ Mansion/ Carriage House renovation/ maintenance
- ❖ International garden (north temperature zones)
- ❖ Formal garden – for weddings and receptions- completely covered/ protected?
- ❖ Path-lighting, accent lighting (discreetly done)
- ❖ Currently no lighting on site
- ❖ More staff / gardeners
- ❖ Security/ perimeter improvements. Fence surrounding property?
- ❖ Educational/ horticultural center for the region with meeting space (auditorium), labs, etc., classrooms
- ❖ 24 hour security
- ❖ Educational program is the priority:
 - New facility
 - Improved program
- ❖ New marketing
- ❖ Separate restrooms for volunteer and staff in greenhouse, around site, with showers, lockers
- ❖ Preserve forest
- ❖ Luncheon space

CONCEPT DEVELOPMENT + DISCUSSION

1) ALL SCHEMES:

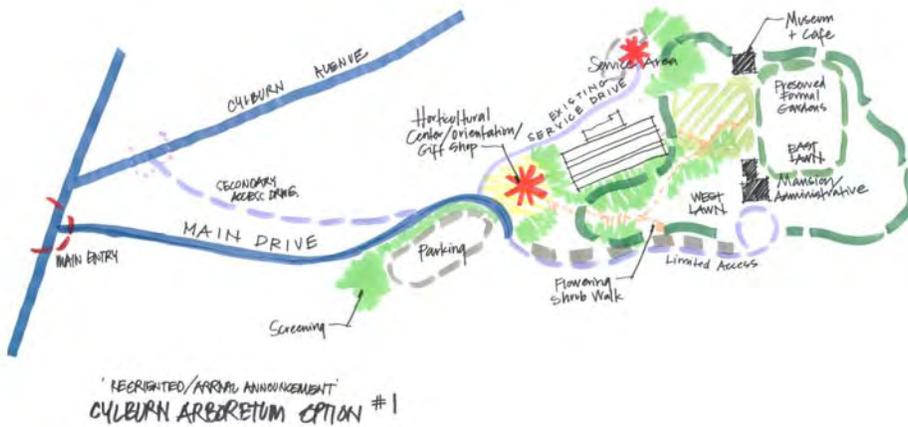
- ❖ Tractor-trailer access to greenhouse is crucial.
- ❖ Provide ample storage and restroom facilities for staff, potentially in the greenhouses.
- ❖ Seriously consider sharing parking with Sinai and providing a shuttle for Arboretum visitors.
- ❖ Investigate the potential wetland area along Cylburn Avenue – will decide whether or not designing a new entrance is feasible.
- ❖ Master Plan alternatives should show a clear integration with the Jones Falls bike trails.
- ❖ The strongest visual image for Arboretum visitors is the Mansion.
- ❖ Mansion would serve primarily administrative functions.
- ❖ The West and East Lawns and Formal Gardens would be preserved, but perhaps reorganized.
- ❖ The space indicated ‘flex’ on the concepts could serve as an extension of the gardens/educational experience and the possible location of a wedding pavilion.

2) OPTION #1: Reoriented Arrival/Announcement

- ❖ Entry into Cylburn would remain at current location.
- ❖ Entrance road could be made more curvilinear to enhance the arrival experience.

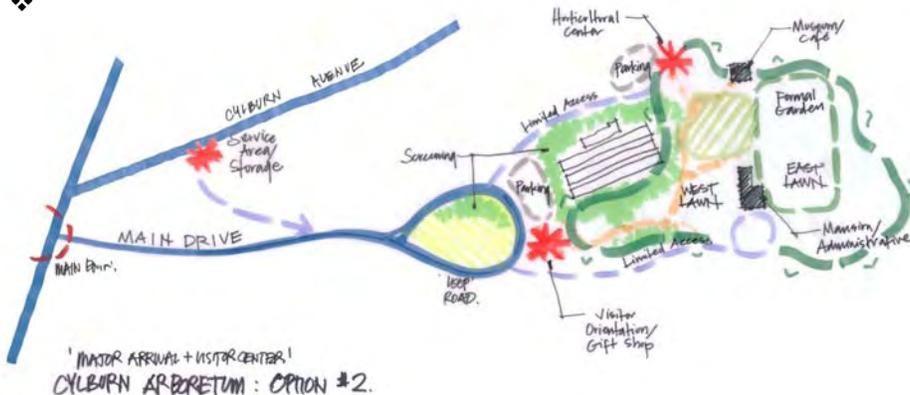
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- ❖ First major node upon entry to the site would be the future Gateway/Visitor Orientation/Horticultural Center/Gift Shop building(s); visitors would begin their experience of the site here, then be guided to other key nodes.
- ❖ Consolidated parking would be centrally-located, adjacent to the Gateway buildings with adequate screening from the main entrance drive.
- ❖ Limited access to both the Mansion and the Service Yard would remain.
- ❖ Museum and possible Café would occupy the Carriage House.



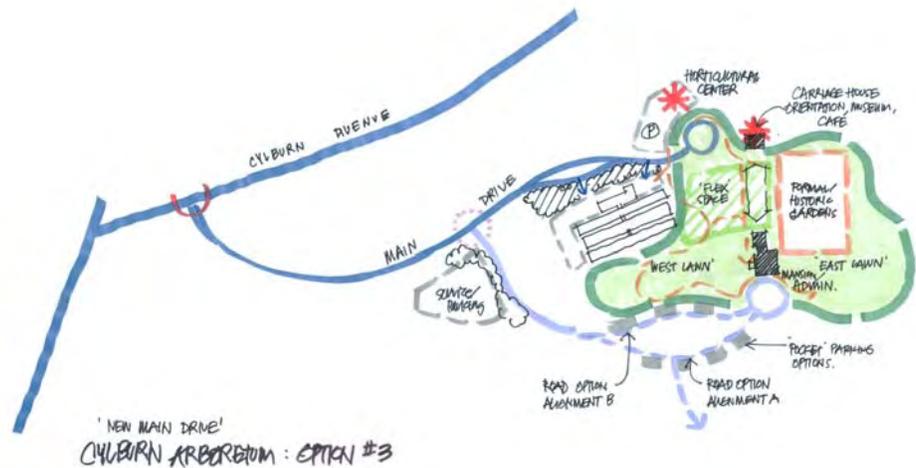
3) OPTION #2: Major Arrival + Visitor Center

- ❖ Entry into Cylburn would remain at current location.
- ❖ 'Loop' entrance road could be made more curvilinear to enhance the visitor arrival experience.
- ❖ First major node upon entry to the site would be a small Gateway/Visitor Orientation/Gift Shop building; visitors would begin their experience of the site here, then be guided to other key nodes.
- ❖ Some parking would be available adjacent to the Gateway building.
- ❖ Service yard would be relocated to Cylburn Avenue, out of the area of major Arboretum activity.
- ❖ Future Horticultural Center/Auditorium would be located on the old Service Yard site.
- ❖ Limited access and some parking would be available adjacent to the Horticultural Center building.
- ❖ Limited access to the Mansion would remain.
- ❖ Museum and possible Café would occupy the Carriage House.
- ❖



4) **OPTION #3: New Main Drive + Reorientation**

- ❖ Entry into Cylburn would occur off Cylburn Avenue.
- ❖ The Carriage House would serve as the Gateway/Visitor Orientation/Museum/Café/Gift Shop building.
- ❖ The Service Yard would be adequately screened and relocated off the main drive.
- ❖ The Horticultural Center/Auditorium would be located on the old Service Yard site.
- ❖ Some parking would be available adjacent to the Horticultural Center building.
- ❖ Limited access off the main drive to the Mansion would remain.



5) **CONCLUSION:**

- ❖ Options 1 and 2 will be further explored for the next charrette, perhaps as 'phasing' options for the Arboretum Master Plan.
- ❖ Consider designing the entrance drive one-way off Greenspring, exiting one-way onto Cylburn Avenue.

APPENDIX C: Charrette #2

A. Agenda

September 9, 2004
Cylburn Arboretum

- 8:30 Arrive
- 8:45 Re-introductions/Begin charrette
- 8:55 Outline process for the morning /Review project schedule
- 9:05 Presentation of study sketches/Concept development to date
- 9:45 Break
- 10:00 Discussion of concepts
- 11:30 Selection of Master Plan concept to be finalized + displayed at the Gala
- 12:00 End charrette

B. Meeting Report

INTRODUCTION

The half-day charrette began with Alan Reed presenting the buildings program he had developed, which featured the combined MOS Bird Museum and Cylburn Nature Museum in the Carriage House, a separate orientation building, a locker room/30-person classroom addition to the greenhouse, and both a potential 130-person and 300-person new horticultural center/auditorium. He explained that during the short-term, the Carriage House could serve as the location for visitor orientation, which would be phased out once a separate kiosk and welcome center were established. The future plans for the Carriage House would also include accommodating an exhibit space twice the size of what currently exists, a potential gift shop with vending, an office and library space, toilets, and storage.

Mahan Rykiel proceeded by presenting the two design concepts that were created at the first charrette. Based on those drawings, four critical study areas were outlined for the morning's presentation: the gateway/entrance expansion, a visitor orientation site, a potential educational/horticultural center site, and a flowering shrub walk. An overall conceptual Master Plan was then presented to show how all the pieces might fit together.

CONCEPT DEVELOPMENT PRESENTATION + DISCUSSION

3) STUDY AREA 1: *Cylburn Entrance*

A. Concept A:

- ❖ Expanded turning radius on either side of entrance road



- ❖ Entrance road kept at current 16' width
- ❖ Sidewalk for pedestrians provided on either side of the entrance drive
- ❖ Piers moved slightly further from entrance road to accommodate pedestrian paths
- ❖ Proposed stone walls and extended planting area

B. Concept B:

- ❖ Accel + decel lanes shown for entrance expansion
- ❖ Entrance road increased to 24' width
- ❖ Piers moved slightly further away from Greenspring to accommodate accel/decel lanes
- ❖ Proposed stone walls and extended planting area

C. Concept C:

- ❖ Expanded turning radius on either side of entrance road
- ❖ Planting islands incorporated to break up expanded paving area
- ❖ Entrance road increased to 24' width
- ❖ Piers moved slightly further away from Greenspring to accommodate expanded entrance
- ❖ Proposed stone walls and extended planting area

D. Concept C (revised):

- ❖ Expanded turning radius on either side of entrance road
- ❖ Planting islands incorporated to break up expanded paving area
- ❖ Entrance road increased to 20' width
- ❖ Sidewalk for pedestrians provided on either side of the entrance drive
- ❖ Piers kept in same location
- ❖ Proposed stone signage walls and extended planting area

E. Comments + Summary:

With Concept C, there was a concern that semi-trucks would possibly run over the planting islands upon entry into Cylburn. It was also mentioned that the salt from the snow piles would kill the planting in those areas. The overall goal for the entrance expansion should be to make it safer, more visible, and easier to drive through. It was agreed that the entrance road should be widened beyond its current 16', but without a significant increase in scale, so that it could still be made to feel like somewhat of a private drive. It was agreed that the design team would further develop Concept A which will include: expanding the radius of the entrance, moving the piers slightly out from the road to allow for pedestrian paths and even increasing the space between the piers, pruning back the large trees at the front of the property to create better visibility, and widening the entrance drive up to the existing bridge. The piers should not be located any further back on the site because of the grade drop off and the two large existing oaks that are approximately 20' behind the south side piers. The proposed pedestrian paths on either side of the expanded entrance will connect before the bridge to form a single meandering path on the south side of the entrance drive.

It was also discussed that the design team should look at another option for entering/exiting into the Arboretum via Cylburn Avenue. Apparently a plan was prepared in 1965 which reflects a 'suggested new entrance'; upon

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obtaining this information, the design team will do some studies to determine the feasibility of creating another entrance onto the site. The area of the proposed location for a new entrance is comprised mainly of secondary growth forest and invasive plant species.

4) STUDY AREA 2: Visitor Orientation

A. Concept A:

- ❖ One-way loop road and drop off with limited vehicular access to mansion and service yard
- ❖ Orientation Kiosk and Visitor Center connected by a planted courtyard/plaza
- ❖ ~57-space pervious parking lot designed to maintain most existing vegetation



B. Concept B:

- ❖ One-way circular drive and drop off with limited access to mansion and service yard
- ❖ Orientation Kiosk, Visitor Center and Horticultural Center connected by a planted courtyard/plaza
- ❖ ~73-space pervious parking lot with bioswale opportunities, which would eliminate most of the Leyland Cypress adjacent to the greenhouses



C. Concept C:

- ❖ One-way loop road and drop off with limited vehicular access to mansion and service yard
- ❖ Orientation Kiosk, Visitor Center and Horticultural Center connected by a planted courtyard/plaza
- ❖ ~73-space pervious parking lot designed to maintain most existing vegetation through the combination of service road and parking



D. Comments + Summary:

Concept C was immediately determined unfeasible due to the conflict between the maintenance vehicles and visitor car parking. Concept B will be further developed, indicating an area of opportunity for the location of a Horticultural Center. Pervious parking will be maximized, especially since the Leyland Cypress have been deemed not sacred, but the outer row of hedge maples, the specimen oak and the pines next to the Leyland Cypress should be preserved. Areas between bays of parking will also be maximized, so as to create opportunities for environmental education through bioswales and associated plantings. Three or more bus parking spaces should also be provided near the orientation buildings, or in an overflow lot beyond the row of hedge maples, adjacent to the service yard, or off-site.

According to Alan, the style of the proposed cluster of orientation buildings might possibly feature stone and gabled or hipped roofs, and could very likely be ‘green’ buildings. The architecture should be downplayed, well-screened, and should be very integrated with the surrounding outdoor spaces.

14) STUDY AREA 3: Educational/Horticultural Center

A. Concept A:

- ❖ 130-person Horticultural Center located in current service yard
- ❖ ~78-space pervious parking lot and drop-off adjacent to Horticultural Center
- ❖ Greenhouse classroom building shown as an extension of the head house

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- ❖ Reconfigured maintenance access to gardens beyond Carriage House
- ❖

CONCEPT A
Horticultural Center



B. Concept B:

- ❖ 130-person Horticultural Center located in old overgrown nursery site
- ❖ ~64-space pervious parking lot with a more formal drop-off adjacent to Horticultural Center
- ❖ Greenhouse classroom building shown as an extension of the head house
- ❖ Reconfigured maintenance access to gardens beyond Carriage House

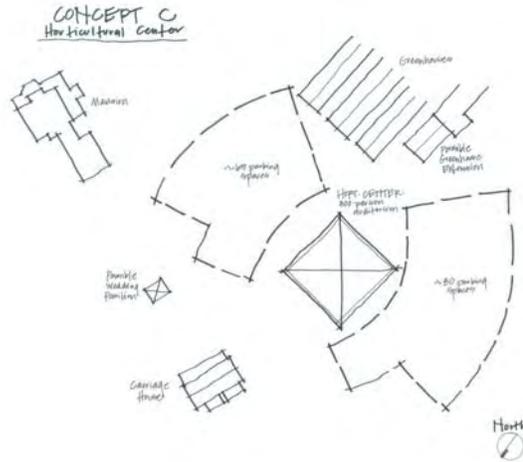
CONCEPT B
Horticultural Center



C. Concept C:

- ❖ 300-person Horticultural Center located in old overgrown nursery site
- ❖ ~150-space parking lot spread across old nursery site and current service yard
- ❖ Greenhouse classroom building shown as an extension of the head house
- ❖ Reconfigured maintenance access to gardens beyond Carriage House





D. Comments + Summary:

After all three concepts were discussed, it was addressed that Concept C might pose too large of an impact to the site if all the shown parking were needed. Concept A will be further developed, but as a ‘potential’ location for a new horticultural/educational facility. If the current service yard site is not developed for this new building, the area could perhaps be used for future overflow parking.

15) STUDY AREA 4: Flowering Shrub Walk

A. Concept:

- ❖ Loop pedestrian path beginning at visitor orientation site
- ❖ Existing vegetation will be preserved and new plantings will help strategically ‘conceal and reveal’ views
- ❖ Picnic grove opportunity
- ❖ Flowering shrubs and other planting displays featured along the walk
- ❖ Potential location for Wolfgang Oehme gardens on west lawn as a setting for the ‘revealed’ views of the Mansion
- ❖ Opportunities through signage to exit the path at key locations
- ❖ Area for relocated vegetable garden and expanded children’s garden shown in portion of old nursery site



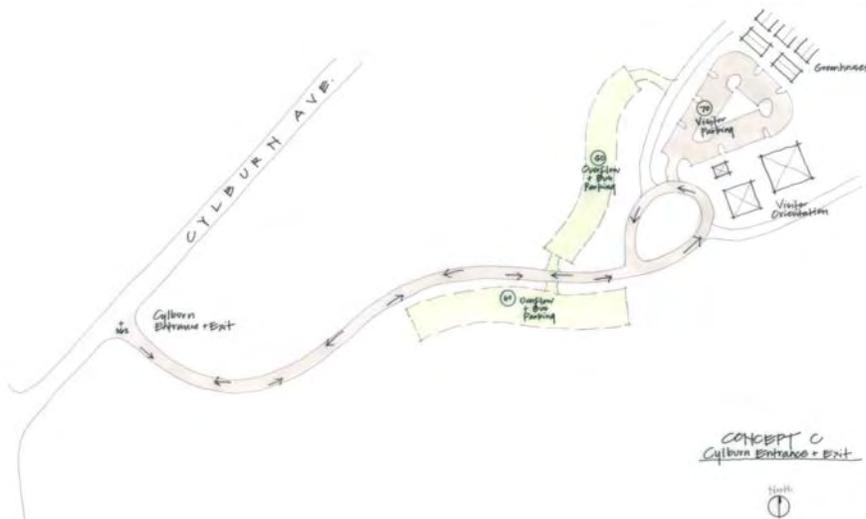
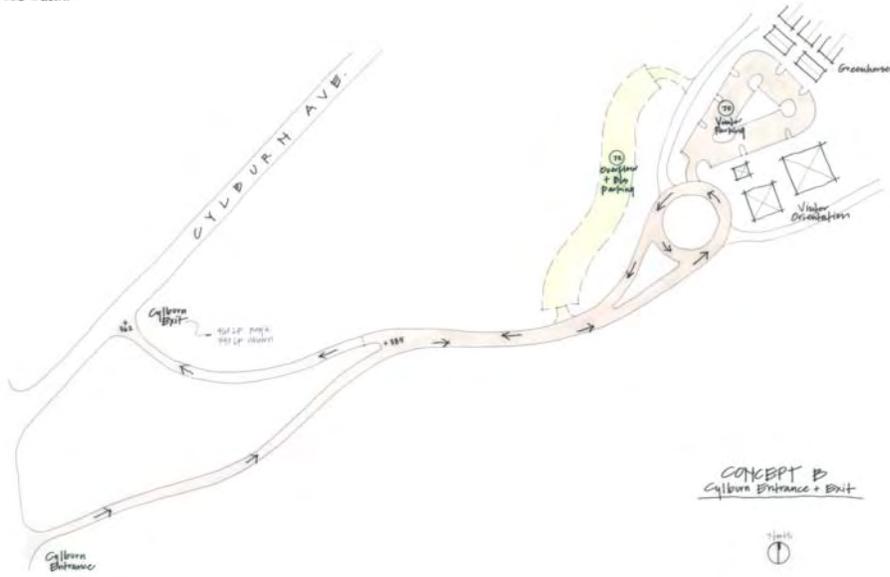
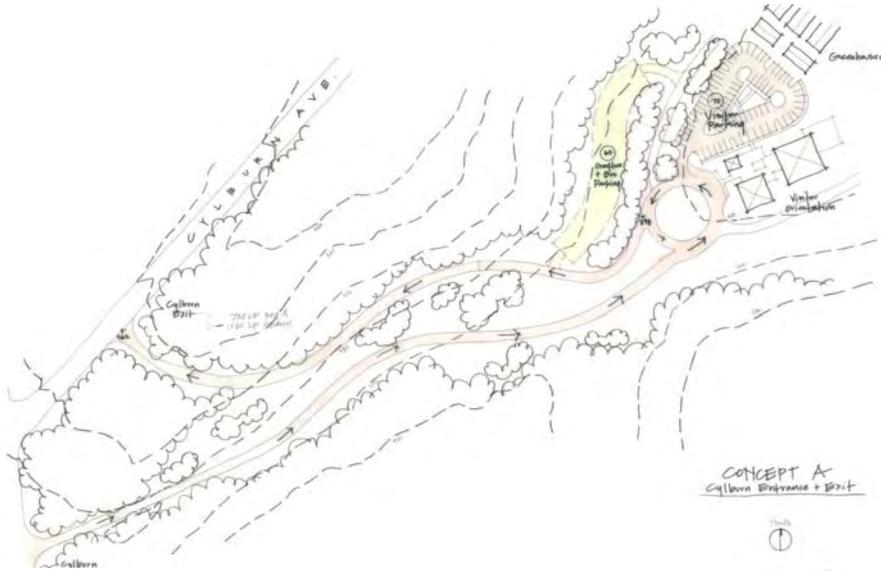
Bike Trail that will eventually make its way through Cylburn Arboretum. It was also expressed that there is a more immediate need for a 75-100 person indoor classroom space (in addition to the 30-person greenhouse classroom), especially if the auditorium/horticultural center never gets built. An additional meeting with the architect will determine whether the additional classroom space could tie into the existing Carriage House, or if it should just be shown in one of the other locations of ‘potential building opportunity’.

A smaller Wolfgang Oehme garden location will also be shown on axis with the historical fountain, adjacent to the woods edge, with the larger one proposed along the flowering shrub walk. The ideal location for a wedding pavilion or structure should be indicated as the terminus to the axis of the formal garden, where the orangerie used to exist. The garden of the senses could move to a different location to accommodate the wedding functions.

CONCLUSION

After the design team completes a few more studies, another coordination meeting will be held for anyone interested in attending to resolve some issues before the final Master Plan and sketches are rendered for the Gala.

APPENDIX D: Arboretum Entrance/Exit Alternatives



APPENDIX E: Estimated Construction Costs Breakdown

A. Buildings Program

Carriage House + Nature Museum

Name	Net Area	Quantity	Total Area	Unit	Cost	Total Cost	Cost/SF
Exhibit Space	2,200	1	2,200	SF	\$200	\$440,000	
Orientation	200	1	200	SF	\$150	\$30,000	
Gift Shop	200	1	200	SF	\$150	\$30,000	
Vending/Food Sales	200	1	200	SF	\$100	\$20,000	
Office	120	2	240	SF	\$100	\$24,000	
Library/Research	200	1	200	SF	\$150	\$30,000	
Toilets	150	2	300	SF	\$150	\$45,000	
Storage	150	1	150	SF	\$100	\$15,000	
Subtotal Area			3,690	SF			
Mech, circulation, etc. @50% (x.5) =			1,845	SF	\$125	\$230,625	
Subtotal Cost						\$864,625	
Design Contingency @ 20% (x.2)						\$172,925	
Escalation to midpoint of construction - assume 1 Yr. @ 4% (x.04)						\$41,502	
Total Bird and Nature Museum			5,535	SF		\$1,079,052	\$194.95

Visitor Orientation Buildings

Name	Net Area	Quantity	Total Area	Unit	Cost	Total Cost	Cost/SF
Information Kiosk	150	1	150	SF	\$75	\$11,250	
Orientation Center	400	1	400	SF	\$250	\$100,000	
Gift Shop	200	1	200	SF	\$200	\$40,000	
Toilets	150	2	300	SF	\$200	\$60,000	
Storage	150	1	150	SF	\$100	\$15,000	
Subtotal Area			1,200	SF			
Mech, circulation, etc. @50% (x.5) =			600	SF	\$125	\$75,000	
Subtotal Cost						\$301,250	
Design Contingency @ 20% (x.2)						\$60,250	

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Escalation to midpoint of construction - assume 2 Yr. @ 4%
(x.08) \$28,920

Total Orientation Building 1,800 SF \$390,420 \$216.90

Greenhouse Addition

Name	Net Area	Quantity	Total Area	Unit Cost	Total Cost	Cost/SF
Locker Room	150	2	300 SF	\$200	\$60,000	
Toilets	180	2	360 SF	\$200	\$72,000	
Showers	75	2	150 SF	\$200	\$30,000	
Storage	200	1	200 SF	\$100	\$20,000	
Classroom	750	1	750 SF	\$175	\$131,250	
Greenhouse Cl. Rm.	750	1	750 SF	\$50	\$37,500	
Subtotal Area			2,510 SF			
Mech, circulation, etc. @40% (x.4) =			1,004 SF	\$125	\$125,500	
Subtotal Cost					\$476,250	
Design Contingency @ 20% (x.2)					\$95,250	
Escalation to midpoint of construction - assume 1 Yr. @ 4% (x.04)					\$22,860	
Total Locker Room/Classroom			3,514 SF		\$594,360	\$169.14

Education Center (210 person auditorium)

Name	Net Area	Quantity	Total Area	Unit Cost	Total Cost	Cost/SF
Auditorium	3,150	1	3,150 SF	\$250	\$787,500	
Library/Research	400	1	400 SF	\$200	\$80,000	
Multipurpose Class	1,000	1	1,000 SF	\$150	\$150,000	
Offices	150	2	300 SF	\$125	\$37,500	
Toilets	180	2	360 SF	\$200	\$72,000	
Storage	150	1	150 SF	\$100	\$15,000	
Subtotal Area			5,360 SF			
Mech, circulation, etc. @50% (x.5) =			2,680 SF	\$125	\$335,000	
Subtotal Cost					\$1,477,000	



Design Contingency @ 20% (x.2)					\$295,400	
Escalation to midpoint of construction - assume 3 Yr. @ 4% (x.12)					\$212,688	
Total Horticultural Center (210 PP Cap.)	8,040	SF			\$1,985,088	\$246.90
GRAND TOTAL ARCHITECTURE					\$4,048,920	

Education Center (130 person auditorium)

Name	Net Area	Quantity	Total Area		Unit Cost	Total Cost	Cost/SF
Auditorium	1,950	1	1,950	SF	\$250	\$487,500	
Library/Research	400	1	400	SF	\$200	\$80,000	
Multipurpose							
Class	1,000	1	1,000	SF	\$150	\$150,000	
Offices	150	2	300	SF	\$125	\$37,500	
Toilets	180	2	360	SF	\$200	\$72,000	
Storage	150	1	150	SF	\$100	\$15,000	
Subtotal Area			4,160	SF			
Mech, circulation, etc. @50% (x.5) =			2,080	SF	\$125	\$260,000	
Subtotal Cost						\$1,102,000	
Design Contingency @ 20% (x.2)						\$220,400	
Escalation to midpoint of construction - assume 3 Yr. @ 4% (x.12)						\$158,688	
Total Horticultural Center (130 PP Cap.)	6,240	SF				\$1,481,088	\$237.35