

Conceptual Master Plan for Boxerwood Nature Center and Woodland Garden



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a c assistance center

College of Architecture and Urban Studies
Virginia Polytechnic Institute and State University



The Community Design Assistance Center (CDAC) is an outreach center of the College of Architecture and Urban Studies and Virginia Tech that assists communities, neighborhood groups and non-profit organizations in improving the natural and built environments through design, planning, and research. Through the integration of the learning and working environment, the Center will execute projects that link instruction and research and share its knowledge base with the general public.

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The CDAC team would like to give special recognition to the following individuals for their keen help:

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TABLE OF CONTENTS

Introduction.....05

Project Description..... 07

Design Process.....08

Site Inventory.....09

Site Analysis.....14

Visioning Session.....21

Conceptual Master Plan.....23

Conclusion.....32

Appendices.....33



INTRODUCTION

Boxerwood Nature Center and Woodland Garden

Boxerwood Nature Center and Woodland Garden is a private non-profit organization located just outside of Lexington in Rockbridge County. It's physical address is 963 Ross Road, Lexington, Virginia 24450, but if one were to ask one of the hundreds of Rockbridge elementary school students where it is located, this is a likely answer:

Boxerwood -

Woods Creek -

Maury River -

James River -

Chesapeake Bay.

That is Boxerwood's watershed address. Boxerwood's mission is to educate and inspire people of all ages toward becoming successful and environmentally responsible stewards of the Earth. Drawing upon the resources of Boxerwood Nature Center & Woodland Garden and the horticultural legacy of Robert S. Munger, MD (1911-1988), Boxerwood's goals are:

1. To develop and administer year-round activities, presentations, exhibits and special events designed to encourage a closer relationship with one's self and nature to create an awareness of the beauty, diversity, complexity and fragility of nature's systems and teach skills and behaviors needed to be effective stewards of the Earth.

2. To demonstrate environmental stewardship in the care and use of our land in order to preserve and maintain the various natural communities, habitats and the woodland garden.

Boxerwood embraces the entire life cycle. They plant and allow new life and celebrate beauty in all seasons. They view birth, development, maturity, age, death, and decay as vital to the future of the garden. Boxerwood is not manicured, as



The Play Trail at Boxerwood offers preschoolers a great safe place to explore and enjoy outdoors.



Boxerwood shrubs, the garden's namesake, line a path to a spring on site.



Tunnel found in the Play Trail area at Boxerwood.

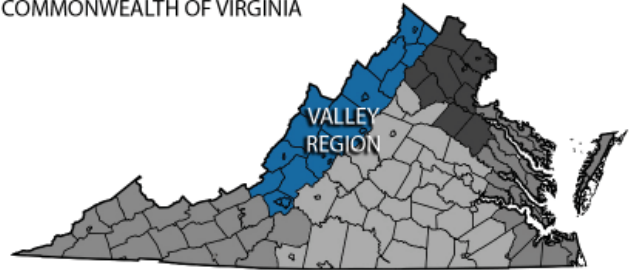
are many formal gardens. It follows the line of thought of Dr. Munger, its founder - "that once a tree was given a good start, it was rather on its own. As a result, much of Boxerwood remains practically wild." (Taken from the Boxerwood Visitor's Guidebook).

Boxerwood can be viewed in two ways - as a nature center and as a cultural institution. Boxerwood, the nature center, "is 31 acres of rolling Shenandoah Valley with at least six distinct habitats: pioneer forest, established woodlands, meadow, hedgerow, wetlands, and pond." (Boxerwood Visitor's Guide).

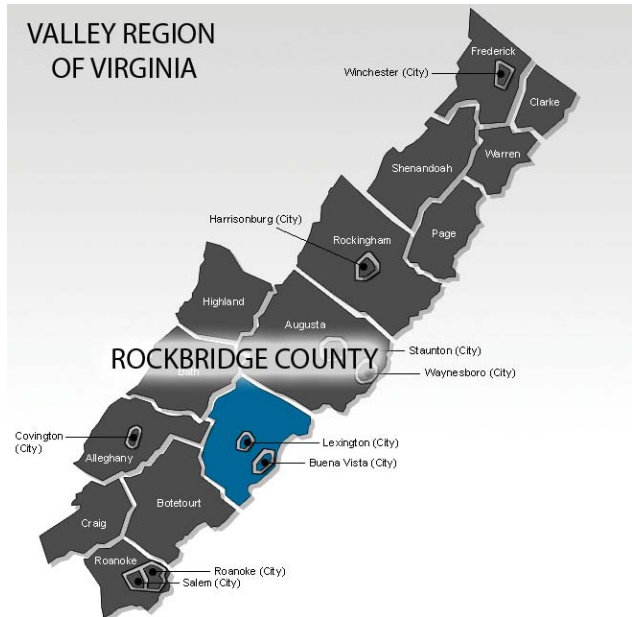
Boxerwood the cultural institution is "a naturalistically planted arboretum encompassing 15 acres. This 48-year-old horticultural treasure was developed by Robert S. Munger, MD, who began collecting rare and unusual trees and shrubs in 1957 and continued until his death in 1988. Among the 7,000 trees and shrubs within the arboretum there are 1,300 labeled cultivars. Gardeners and non-gardeners from all over the world have visited this quiet, wild, and spirited garden. It is indeed a horticultural treasure." (Boxerwood Visitor's Guide).

CONTEXT MAPS

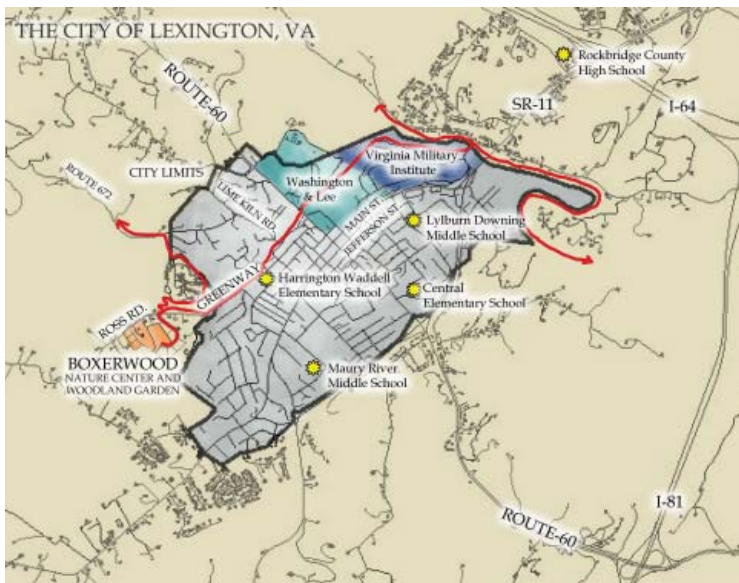
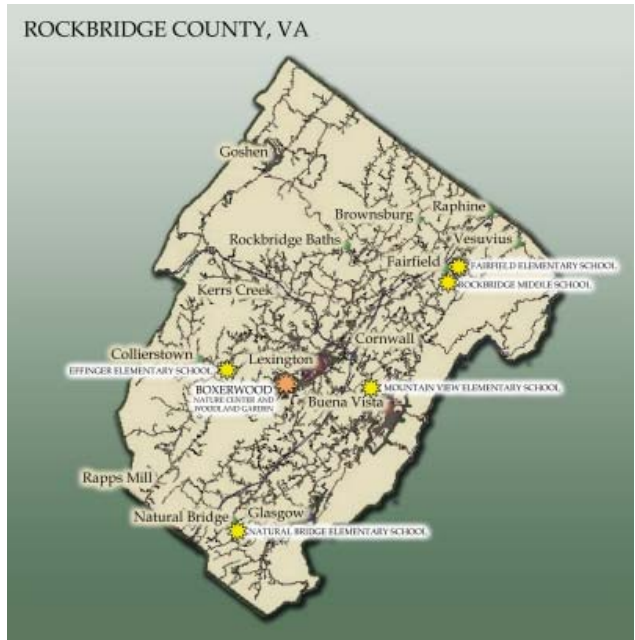
COMMONWEALTH OF VIRGINIA



VALLEY REGION OF VIRGINIA



ROCKBRIDGE COUNTY, VA



PROJECT DESCRIPTION

The Community Design Assistance Center (CDAC) assisted the Boxerwood Education Association and Boxerwood staff in three areas:

1. Mapping current conditions
2. Visioning for the future as it relates to the physical master plan
3. Offering design recommendations

The CDAC team work with Boxerwood staff and board members to identify and analyze existing conditions as well as articulate, in graphic form, visions for the future of the site. The CDAC team offered design recommendations related to:

- ADA accessibility
- Themed way-finding through the site, including how to present the various habitats through trails, additional signage, or other means
- Signage
- Entry sequence and orientation
- Parking
- Potential spaces for outdoor classrooms
- Organization of learning environments
- Ideas for additional learning opportunities
- Indoor spaces
- Spaces for adult education



A portion of the diverse woodland gardens found at Boxerwood.

DESIGN PROCESS:

The CDAC design team began the project with an initial site visit and tour of Boxerwood with staff members Hunter Mohring and Karen Bailey. The CDAC team photographed the site as they learned about the many spaces, places, and programs at Boxerwood.

The CDAC team returned to the site several additional times, to verify information for the existing conditions mapping, to shadow several educational programs offered to elementary school students in the County, and to talk with the teaching staff about needs and desires for the site as it related to the various age groups that Boxerwood serves.

Following these meetings, the CDAC team developed site inventory and analysis drawings, documenting their findings to date. The CDAC team met with Boxerwood staff and board members to discuss these findings and learn about their visions for the future of Boxerwood.

From that meeting and ensuing correspondence, the CDAC team took away valuable information that would guide the course of the remainder of the project. Initial conceptual design alternatives were developed. Suggestions for trail materials, ADA accessibility options, interior spaces, and entry sequence and parking were prepared. These initial design ideas were presented to Boxerwood staff and board members for review and comment.

The conceptual master plan was refined based on the feedback received at the presentation. An illustrative existing conditions map was also developed for Boxerwood to use in combination with its current wayfinding system.

This short support report was prepared to document the project and describe the conceptual design proposals.



Hunter Mohring (center) describes garden features to CDAC team members Lauren Doran (right) and Caroline Wallace (left).



Boxerwood staff member Elise Sheffield leads an environmental education session for a local elementary school.



CDAC team members Kent Hipp (left) and Caroline Wallace (right) discuss design concepts with Boxerwood board member John Miles (center).

SITE INVENTORY

As mentioned in the introduction, Boxerwood has at least seven distinct habitats: springs, pond, wetlands, established woods, hedgerow, meadow, and pioneer forest. Within each habitat signage, “landmark” features, and paths can be found. Wildlife, including birds, frogs, turtles, and snakes roam alongside visitors. Some key landmark features include:

- The Eye - a living sculpture
- The Great Oak - the center of Boxerwood and part of the established woodland
- The Zigzag Bridge - created after a trip Dr. Munger made to Japan

The Munger Lodge serves as the visitor’s center and indoor educational facility. The building also holds staff offices, a kitchen, restroom facilities, some display space, and storage.

Other existing structures on the Boxerwood property include two covered shelters, a private residence, a spring house, a barn used for storage, and the N.E.W.T.S. building. N.E.W.T.S stands for Nature-Emulating Waste Treatment System. This system was activated in 2004 and treats all sewage waste generated on site. It is also a key educational element within Boxerwood.

The Preschool Play Trail is another destination within the Boxerwood site. Started in 2006, this portion of Boxerwood offers young children an exciting and safe place to explore nature.

The CDAC design team made several visits to Boxerwood to walk and photograph the site. Base map material was obtained from Rockbridge County’s Planning Department in the form of Geographic Information System (GIS) files. The CDAC team utilized the knowledge of Boxerwood’s board and staff members, as well as a GPS device to determine the locations of existing trails and major site elements. The CDAC team took field measurements for buildings, roads, and several other features. Finally, the CDAC team talked with staff members to

see how they used the site and spent several hours shadowing an elementary school educational session to see how the classes used and explored the site during a formal educational program.

A photo board, existing conditions GIS map, and illustrative existing conditions drawing were prepared to document the present conditions at Boxerwood. These drawings can be found as 11x17 fold-out maps on the following pages.



CDAC team member Kim Steika explores some of the trails at Boxerwood.



CDAC team members Lauren Doran (left) and Caroline Wallace (center) discuss Boxerwood’s habitats with Karen Bailey (right).

BOXERWOOD NATURE CENTER AND WOODLAND GARDEN

PHOTO ANALYSIS



1. ENTRANCE TO PLAY TRAIL



2. WILLOW TUNNEL IN PLAY TRAIL



3. LAND FORM IN PLAY TRAIL



4. GATE LEAVING PLAY TRAIL



5. MAIN PARKING LOT AND MULCH



6. PARKING LOT DRAINAGE



7. WELCOME CENTER



8. NEWTS GREENHOUSE



9. OUTDOOR CLASSROOM



12. PIONEER FOREST



13. NEWTS FILTERS



15 BOXWOODS



16. WOODEN BENCH WITH "THE EYE" PLANTINGS BEYOND



18. THE GREAT OAK



19. WETLAND WALKWAY



20. WETLAND POND



21. PINE FOREST



22. ORCHARD



23. MEADOW VIEW TOWARD ROSS RD.



24. OVERLOOK VIEW



11. VIEW OF HORTICULTURAL DIVERSITY



14. SPRING HOUSE



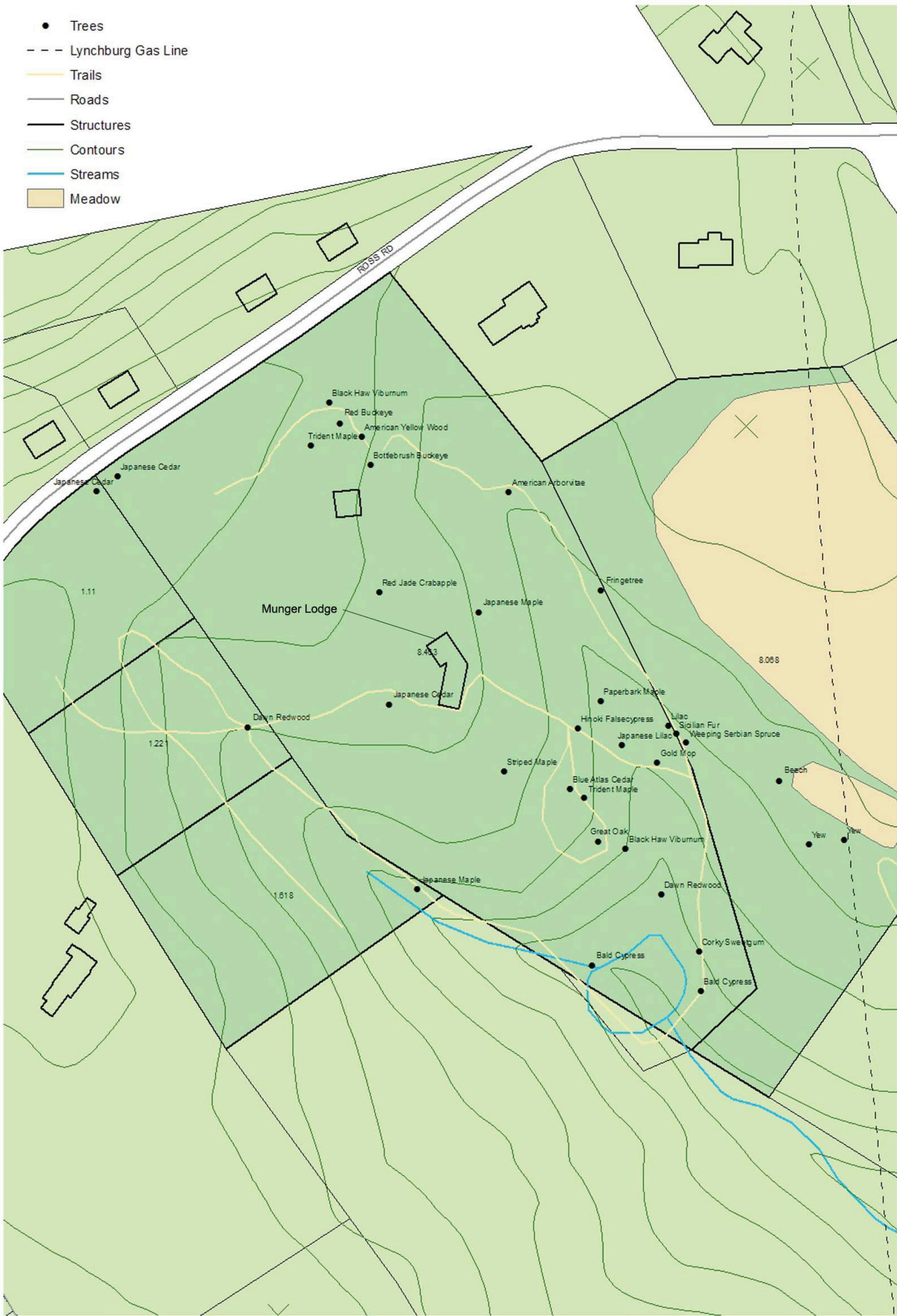
17. THE POND



24. OVERLOOK VIEW

Mapped Trees

- Trees
- - - Lynchburg Gas Line
- Trails
- Roads
- Structures
- Contours
- Streams
- Meadow

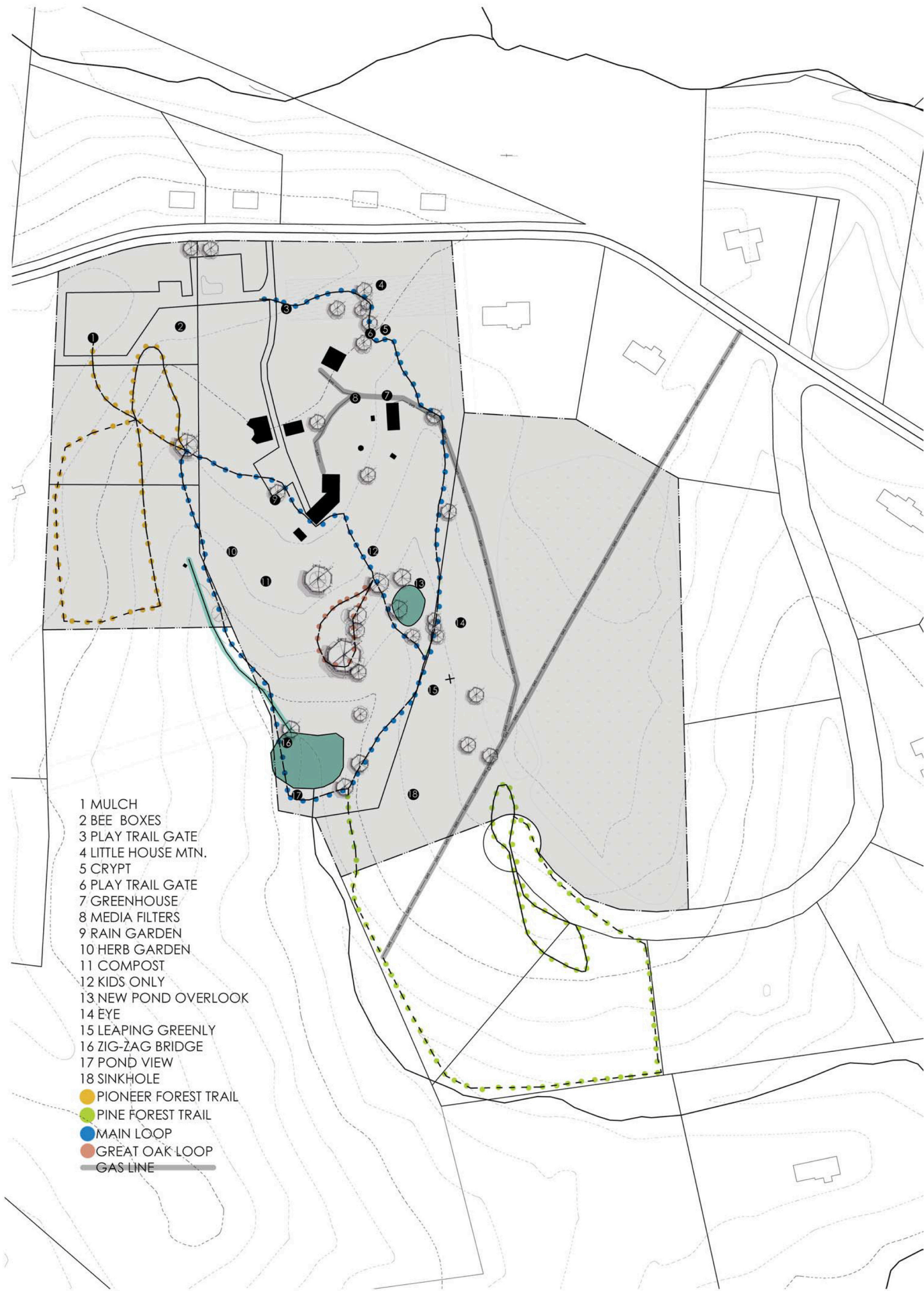


Boxerwood Nature Center and Woodland Garden

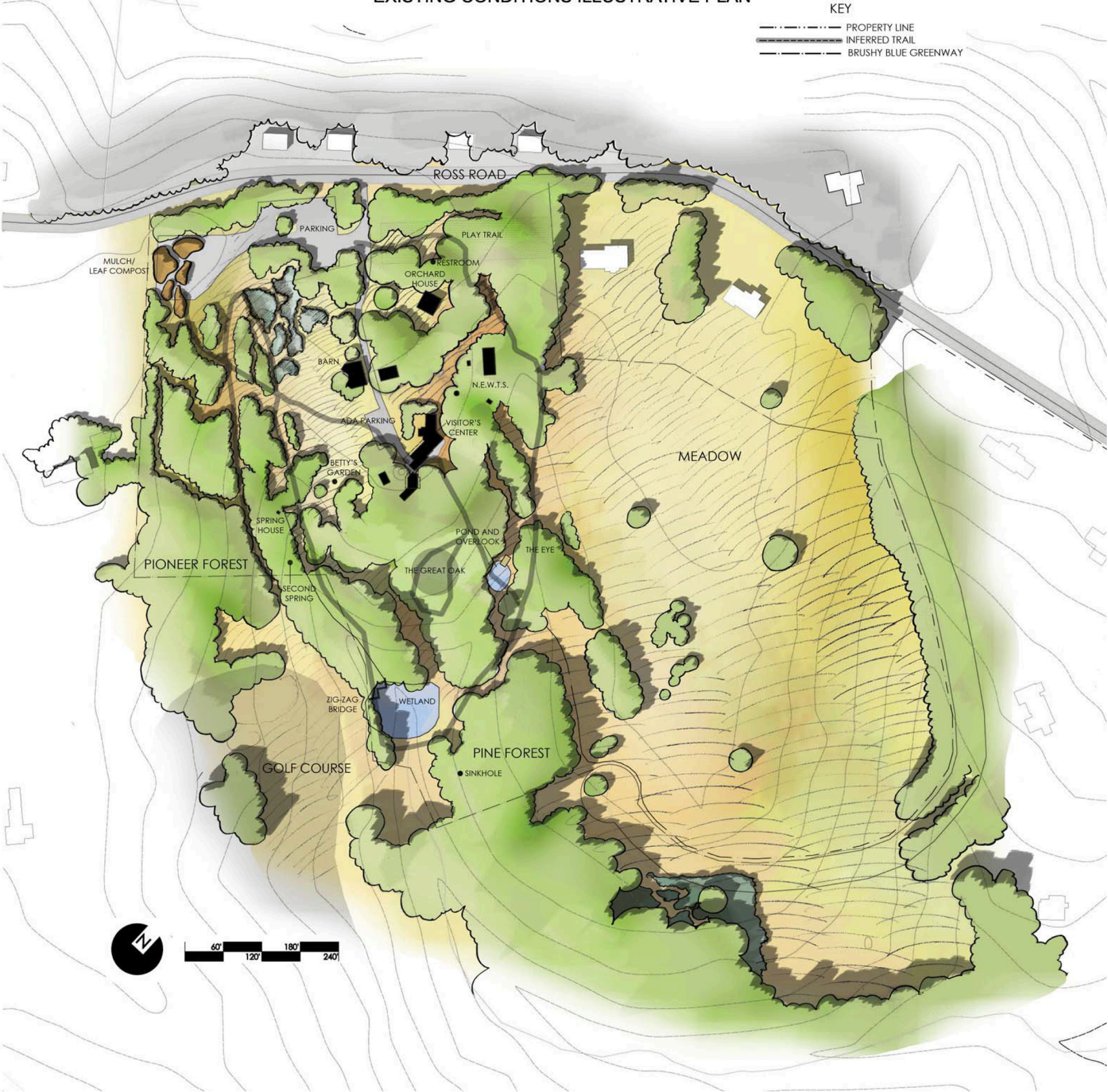
963 Ross Road
Lexington, Virginia

TRAILS AND LANDMARKS

This drawing is conceptual and was prepared to show approximate location and arrangement of site features. It is subject to change and is not intended to replace the use of construction documents. The client should consult appropriate professionals before any construction or site work is Community Design Assistance Center is not responsible for the inappropriate use of this drawing.



BOXERWOOD NATURE CENTER AND WOODLAND GARDEN
EXISTING CONDITIONS ILLUSTRATIVE PLAN



SITE ANALYSIS

After preparing base maps and taking inventory of existing elements and uses, the CDAC design team worked to prepare several analysis drawings. The CDAC team looked at slope, hydrology/geology, circulation, signage, views, and uses of the site. Analysis drawings were prepared for each of these topics.

Slope

The Boxerwood site enjoys undulating topography which helps to define and create spaces within the site. The change in elevation also serves to illustrate watershed and overland water flow concepts. The parking area, Play Trail, Munger Lodge, and adjacent outlying areas have relatively gentle grades, ranges from 0-10% slope. These slopes make this area one of the best locations for ADA trails on the site. The meadow and wetland (old pond) also have slopes ranging between 0-10%. Garden visitors must pass through steeper slopes to access these areas, making ADA accessible trails to these points slightly more difficult. Slopes of 10-25%+ can be found in the Pioneer and Pine Forests.

Hydrology/Geology

The Hydrology/Geology analysis located site watershed boundaries and examined the direction of water flow on the site. Soils were examined through the Rockbridge County Soil Survey and were found to consist primarily of Clarksville Silt Loam. This is a smooth silt loam layer, from 6 to 8 inches thick, and is underlain by a silty clay loam extending from 15 to 20 inches in depth. The sub soil is silty clay extending from 30 to 34 inches. Throughout the surface and subsurface soils are small broken pieces of white and gray chert. There is also a sink hole on the site. The surface relief is rolling and drainage is well established.

Circulation

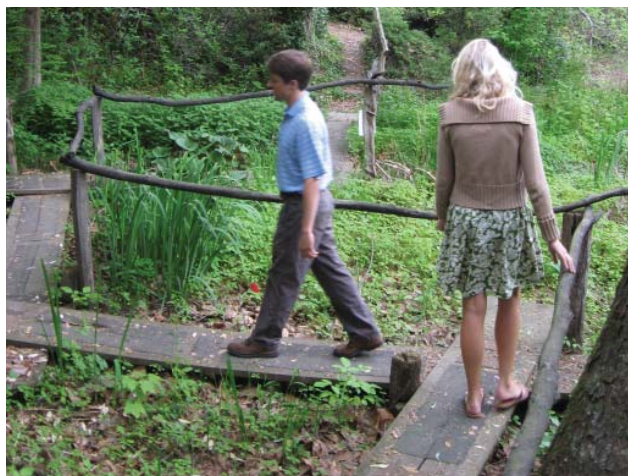
The CDAC team developed a circulation analysis map based on their site usage observations as well as feedback from Boxerwood staff. Both



Hunter Mohring (left) and Kim Steika (right) discuss Boxerwood's informational signage.



CDAC team members explore information outdoor gathering spaces.



CDAC team members Kent Hipp (left) and Caroline Wallace (right) enjoy the zigzag bridge.

vehicular and pedestrian circulation are noted. Primary, secondary, and tertiary pedestrian routes are documented. These documented routes helped the CDAC team identify areas of intense use (primary routes), potential conflicts, and future opportunities.

Signage

The CDAC team inventoried the existing signage on site and divided the signage into one of three categories:

- orienting
- informational
- whimsical

The CDAC team felt the orienting and informational signage could benefit from a consistent format to make wayfinding easier for visitors, particularly first time visitors. The whimsical signage of Boxerwood reflects the playfulness of the place and should be retained. An inventory of signage images is included on page 19.

Views

The CDAC team examined views into and out of the site and made recommendations on areas to screen and places to prioritize viewshed preservation. Plantings should be added to partially screen the golf course from the view of those enjoying Boxerwood. Some views to the golf course should be retained, as it is used as an example during watershed educational classes. Plantings could also be added to provide a visual separation from the meadow portion of the Boxerwood side and an adjacent property. Views from the Munger Lodge to the surrounding landscape as well as views from Boxerwood to the surrounding mountains should be preserved.

Use of Site

The CDAC team identified areas of the site that were under-utilized as well as areas for possible expansion/acquisition. This simple analysis drawing was created primarily as a resource for discussion purposes during the Visioning Session. Additionally, the potential future connection to the Brushy Blue Greenway Trail spur was identi-



Example of whimsical signage present at Boxerwood.



Example of informational signage by the pond.



Screening could be added to limit views into the neighboring property.

Boxerwood Nature Center and Woodland Garden

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Basemap

c

d

a

c

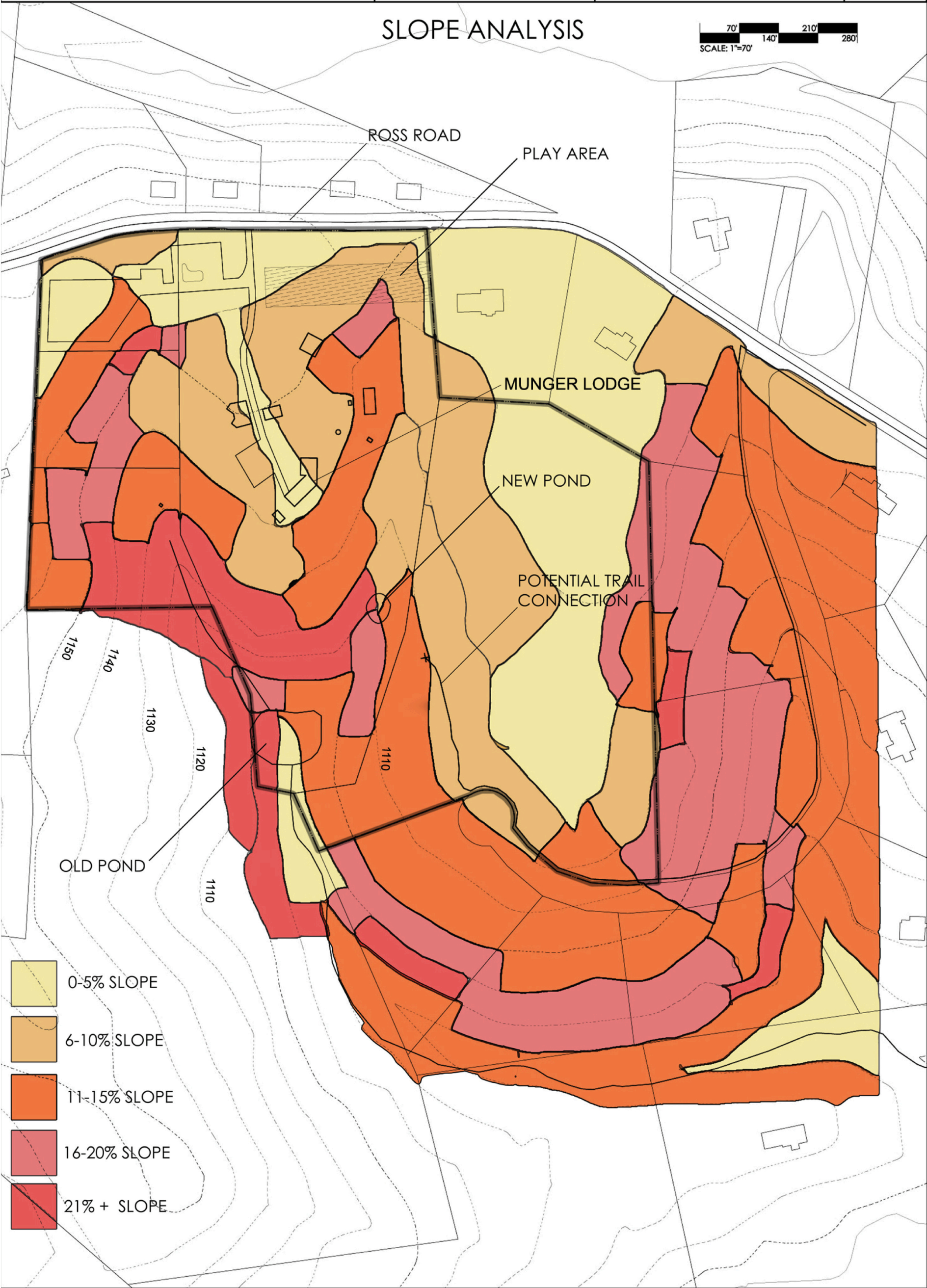
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Boxerwood Nature Center and Woodland Garden

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HYDROLOGY / GEOLOGY

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LEGEND:

- DIRECTION OF WATER FLOW (Blue arrows)
- WATERSHED BOUNDARIES (Dashed line)
- APPROXIMATE PROPERTY BOUNDARIES (Solid line)

SCALE: 0 90 180 360 540 720 Feet

NOTE: KARST TOPOGRAPHY IS PRESENT ON SITE.

SOILS

THE SOILS ON THE SITE CONSIST PRIMARILY OF CLARKSVILLE SILT LOAM. THIS IS A SMOOTH SILT LOAM LAYER, FROM 6 TO 8 INCHES THICK, AND UNDERLAIN BY A SILTY CLAY LOAM EXTENDING FROM 15-20 INCHES IN DEPTH. THE SUB-SOIL IS SILTY CLAY EXTENDING FROM 30-43 INCHES. THROUGHOUT THE SURFACE SOILS AND SUB-SURFACE ARE SMALL BROKEN PIECES OF WHITE AND GRAY CHERT. THE SURFACE RELIEF IS SMOOTH OR ROLLING AND DRAINAGE IS WELL ESTABLISHED.

Taken from the Soil Survey of Rockbridge County, Virginia, Series 1931, #4, pp.18-19

SIGNAGE INVENTORY



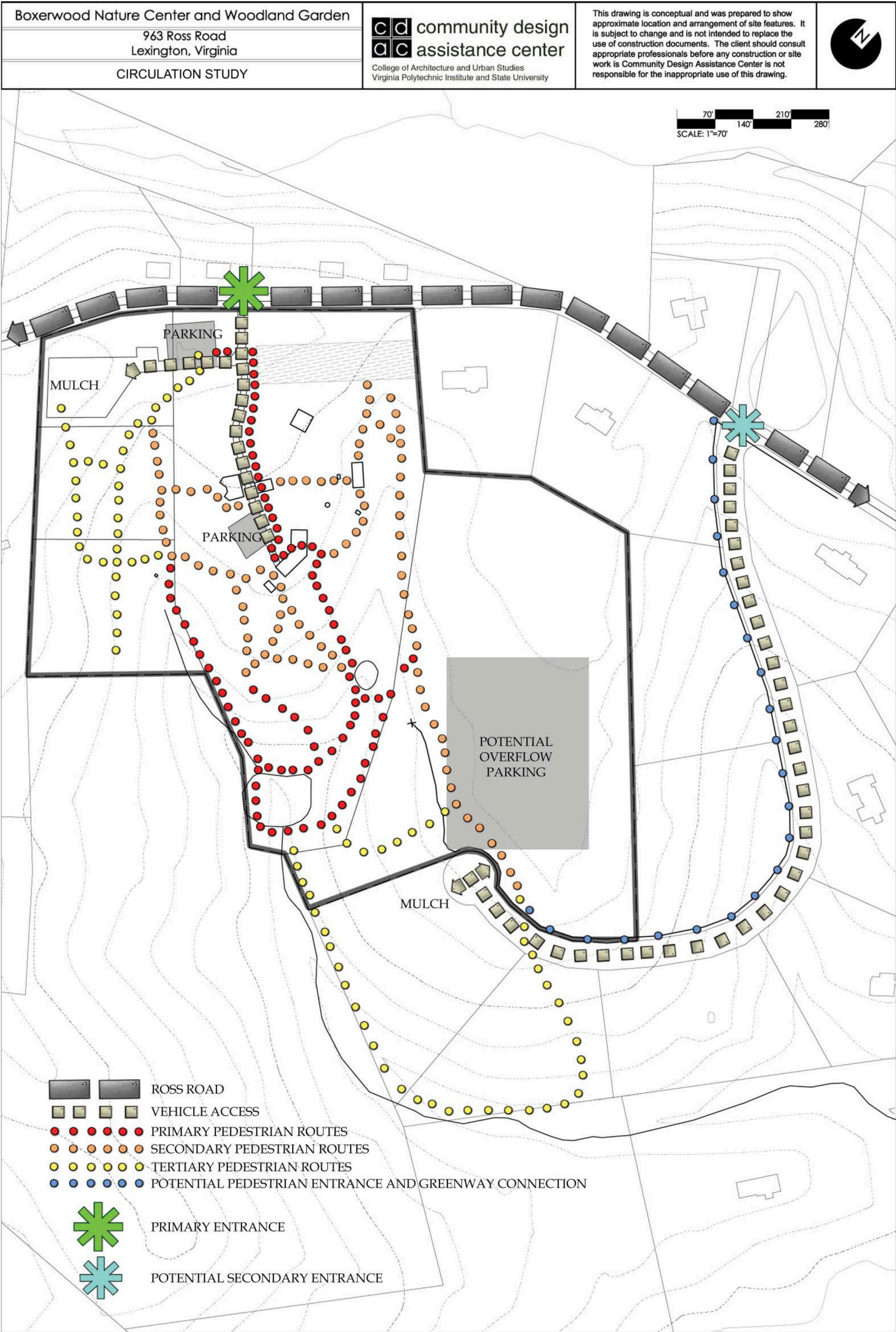
ORIENTING SIGNAGE



INFORMATIONAL SIGNAGE



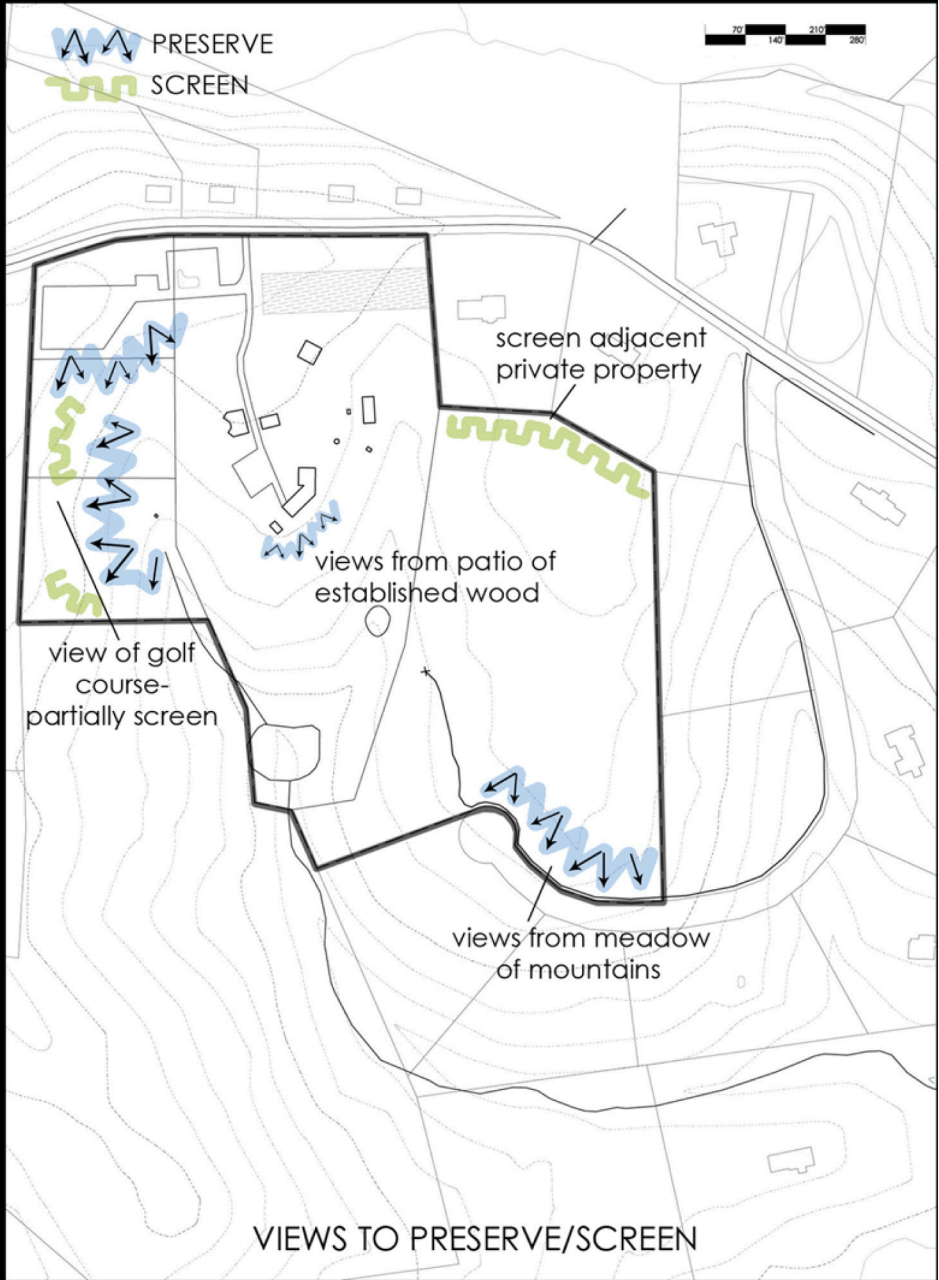
WHIMSICAL SIGNAGE



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COMPOSITE SITE ANALYSIS

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VISIONING SESSION

The CDAC team met with Boxerwood board and staff members to discuss their visions for the site, present CDAC's site analysis findings, and determine design issues and goals related to Boxerwood and this project. The meeting agenda and comments from board and staff members can be found in Appendix A.

From the visioning session, the CDAC team gained a better understanding of formal versus informal education at Boxerwood, a greater understanding of their target audiences, and knowledge about current priorities/focus and future efforts to strengthen outreach to specific audiences (i.e. adults).

The CDAC team and Boxerwood board and staff members discussed specific areas of the site to examine various elements to address or add in the development of the conceptual master plan. These, in part, included:

- additional indoor meeting spaces
- additional wall/display space
- additional outdoor classrooms
- parking
- signage
- lighting
- highlight karst topography on site
- additional restrooms
- handwashing stations
- additional storage
- improved entry experience
- additional opportunities to highlight biomimicry
- trails - drainage, circulation, width, intensity of use, accessibility (ADA)



Hunter Mohring (left) and Lauren Doran (right) discuss circulation at Boxerwood.



Boxerwood board and staff members listen as the CDAC team presents their site analysis findings.

BOXERWOOD NATURE CENTER AND WOODLAND GARDEN: VISIONING FOR FUTURE GROWTH

LOOKING AT THE SITE:

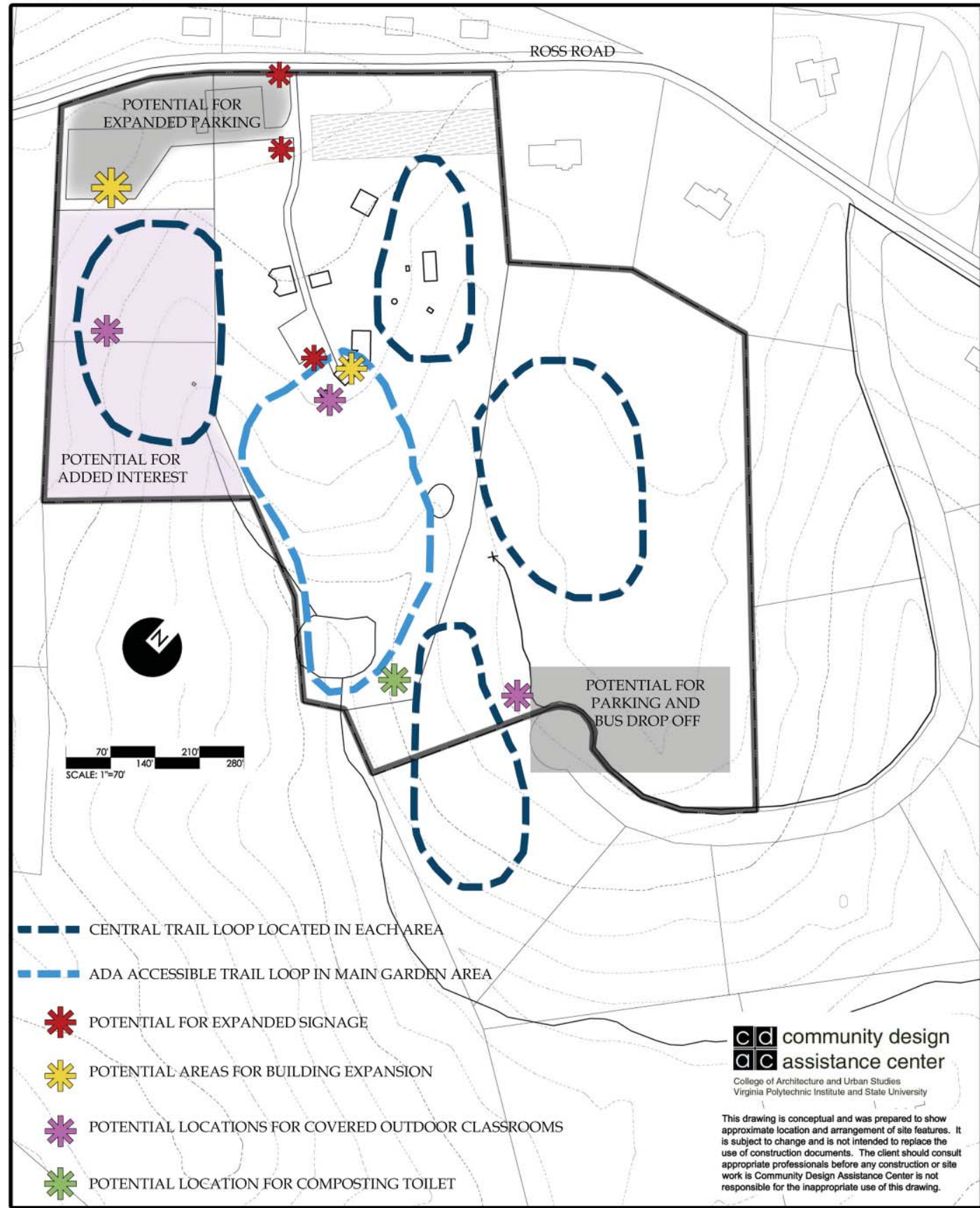
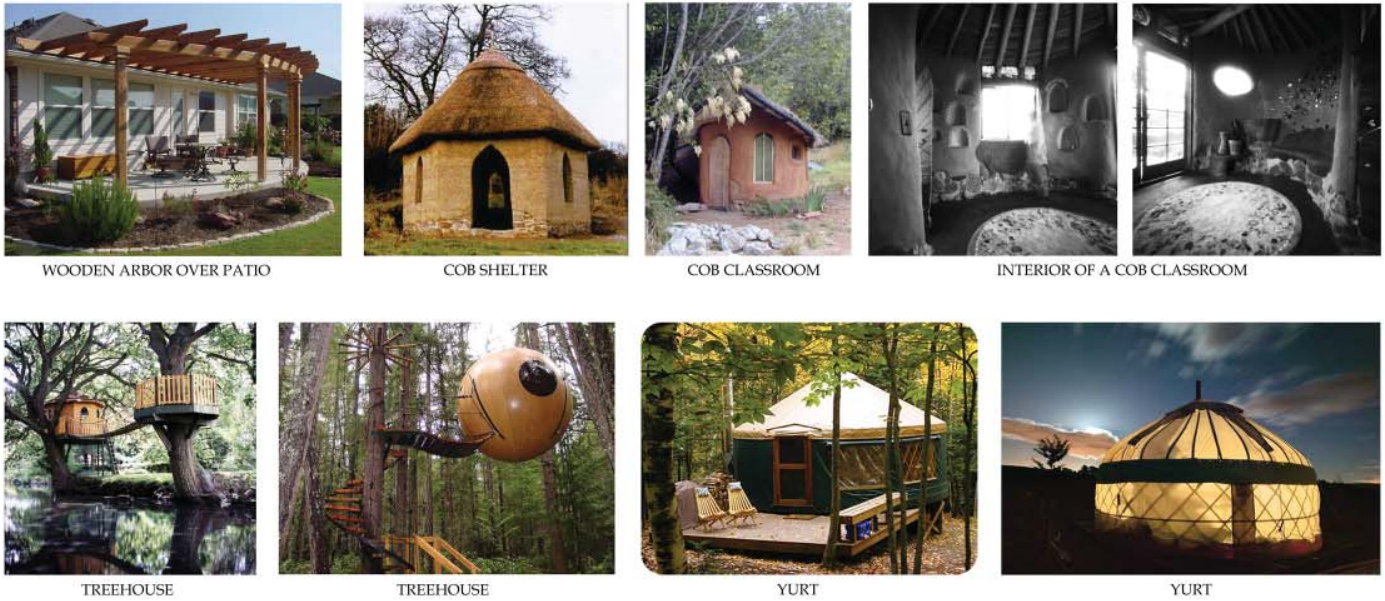


PHOTO IDEAS:

SIGNAGE



STRUCTURES



ACCESSIBILITY



BIOMIMICRY



CONCEPTUAL MASTER PLAN

The CDAC design team used the site analysis findings as well as the input from the visioning session and conversations with staff to guide the design development of the conceptual master plan. A preliminary plan was created and presented to the Boxerwood board and staff members in March 2008. An 11x17 fold out of the preliminary master plan can be found in Appendix C.

The CDAC team refined areas of the plan based on staff and board member feedback. A final conceptual master plan was prepared and presented in May 2008.

The final conceptual master plan provides a long term vision for the Boxerwood grounds. Areas of design recommendation include:

- entry sequence
- ADA trails
- building additions & outdoor gathering areas

These areas are described in detail on the subsequent pages.

Additional proposed elements in the final conceptual master plan include an herb garden, additional restrooms (in the play trail area and a composting toilet near the pine forest), an observation structure, and signage highlighting the sink hole on site.



Board and staff members review the conceptual master plan.



CDAC team member Kent Hipp presents design concepts.

ENTRY SEQUENCE

The existing parking area is refined and expanded to allow for better circulation, more efficient use of space, and overflow parking in the case of special events. Additional orienting and way-finding signage is proposed next to the play trail as well as adjacent to the parking lot. These signs would greet the visitor as they arrive and give an overview of Boxerwood's amenities, including a site master plan.

Changes to the entry sign are recommended as well. The simple addition of hours of operation and the phrase "open to the public" help communicate that Boxerwood welcomes visitors.

Future access to the Munger Lodge will be limited to pedestrian and ADA parking. The current entry drive will be physically altered to still allow for limited vehicular access but will be primarily pedestrian in nature.

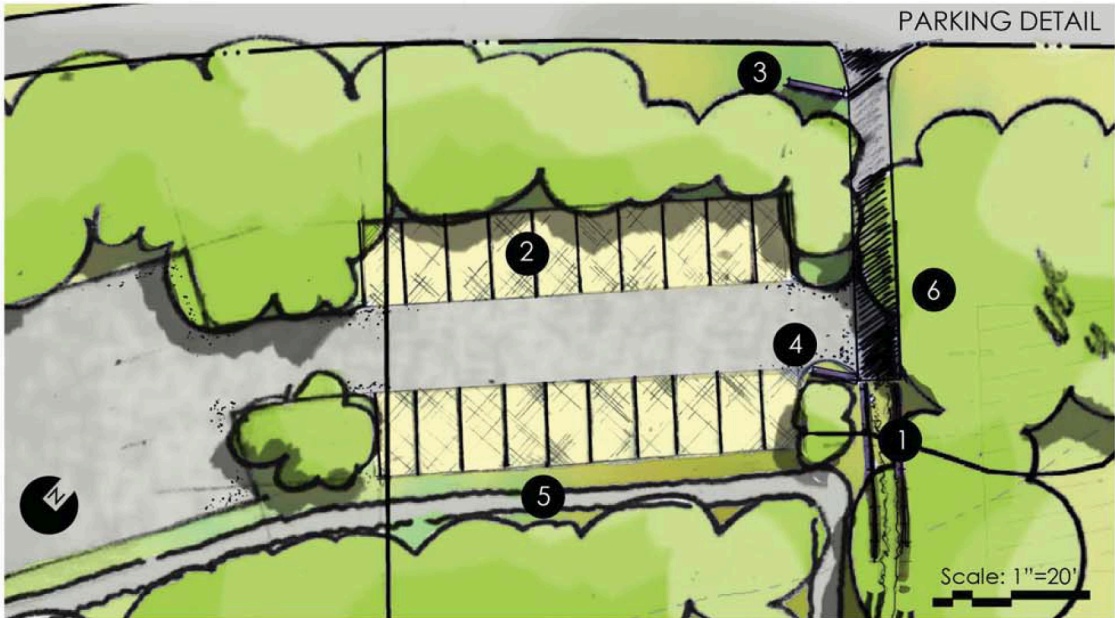


Entry sequence highlighted on the master plan.

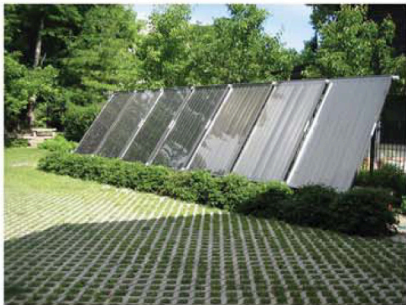
Boxerwood Nature Center and Woodland Garden
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ENTRANCE and SIGNAGE

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1 Concrete Strip Drive



2 Porous Pavers



5 -Garden Master Plan
-Historical Information



3 Main Entrance Sign



4 Directional Sign



Trail Loop Sign



ENTRY DRIVE PERSPECTIVE

Concrete Drive

Crushed Stone Walkway



6 Play Trail Entrance Sign

ADA TRAILS

The final master plan proposes a trail loop with surfacing and slopes that allow users with different or limited physical abilities to access and enjoy key features of the site. The loop takes visitors from the parking area, along the edge of the Pioneer Forest, past the proposed visitor's center, alongside the herb garden, around Munger Lodge, and up to the N.E.W.T.S. station.

The proposed surfacing for this section of trail is fine, crushed stone (i.e. no. 10 stone dust). This will provide a more accessible surface than grass, while still allowing for infiltration.

A list of criteria for evaluating trail accessibility as well as additional surfacing suggestions can be found on the following page.



Proposed ADA trails highlighted on the master plan.

DEVELOPING ADA ACCESSIBLE TRAILS

Universal Trail Assessment Process(UTAP):

-Evaluates 4 specific trail characteristics:

1. **Grade**- steepness of the trail, includes the average grade as well as maximum grade, for any length of trail grade should not exceed 6%; for slopes up to 8%, max run of 50'; slopes up to 10%, max run of 30'
2. **Cross Slope**- trail slope from one side to the other, 0-2% recommended slope, 12% maximum
3. **Trail Width**- should accomodate the average wheelchair base of 28 inches
4. **Surface Type**- a major limiting factor for all kinds of trail users, surface must be firm and stable (possibilities listed in detail below)

-Other factors include trail length and hazards such as protruding rocks, steps, and a low overhead clearance

-Tread obstacles should not be higher than 2"



Possible Trail Surface Materials:

- Enviroseal Soil Stabilizer ●

- commercially available product
- suggested method: 1" sand bed with a topical tack coat of stabilizer, topped with four inches of finely crushed stone mix, sprayed with a mixture of stabilizer and water.
- half the cost of asphalt
- ADA approved



-Packed crushed stone

-Wood planks ●

-Gravel fines compacted with a roller

-Packed soil

-Limestone chips



Levels of Access:

- "Whole Access" trails have a smooth surface, a minimal cross-slope, a maximum grade of 10%, and a handrail to aid the visually-impaired or infirm. ●

-Wheelchair accessible trails do not require a handrail, but follow surface type and slope guidelines.



BUILDING ADDITIONS & OUTDOOR GATHERING SPACES

Boxerwood board and staff members expressed a clear need and desire for additional indoor meeting and storage space. The final master plan proposes two additions to meet these needs.

The first long term building recommendation is for the design and construction of a new multi-purpose building. This building would house a visitor's center, additional indoor restrooms, an indoor classroom and storage space. An additional, adjacent covered pavilion provides another flexible meeting space. This space could be enclosed with removable panels in the winter. The presence of a fireplace also offers a source of heat and an opportunity for outdoor events. Storage space is provided in the pavilion structure and is envisioned to house tools and materials for the herb garden as well as other outdoor equipment.

The final conceptual master plan also proposes a second-story addition to part of Munger Lodge. This space would provide another indoor classroom/gather space. It would also provide a bird's eye view to much of the gardens. The addition is sited so views to the surrounding mountains will not be obstructed.



Proposed building additions highlighted on the master plan.

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EDUCATIONAL FACILITIES			

PROPOSED MULTI-PURPOSE BUILDING PLAN



- 1 VISITOR'S CENTER
 - 2 STORAGE
 - 3 RESTROOMS
 - 4 CLASSROOM
 - 5 HAND WASHING STATION
 - 6 COVERED PAVILION WITH FIREPLACE
 - 7 STORAGE
 - 8 CRUSHED STONE PATH
 - 9 LIMITED ACCESS DRIVE (DELIVERY/ADA)
- ● ● ● PUBLIC CIRCULATION
- Square Footage:
- PAVILLION - 1500 sq. feet
 - BUILDING - 1375 sq. feet
 - VISITOR'S CENTER - 250 sq. feet
 - STORAGE - 300 sq. feet
 - CLASSROOM - 700 sq. feet

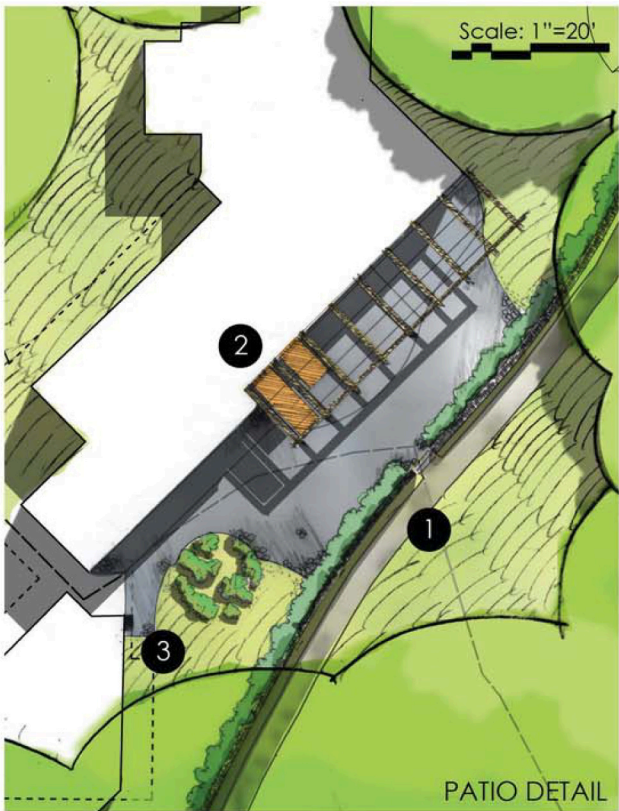


Open Air Pavilion

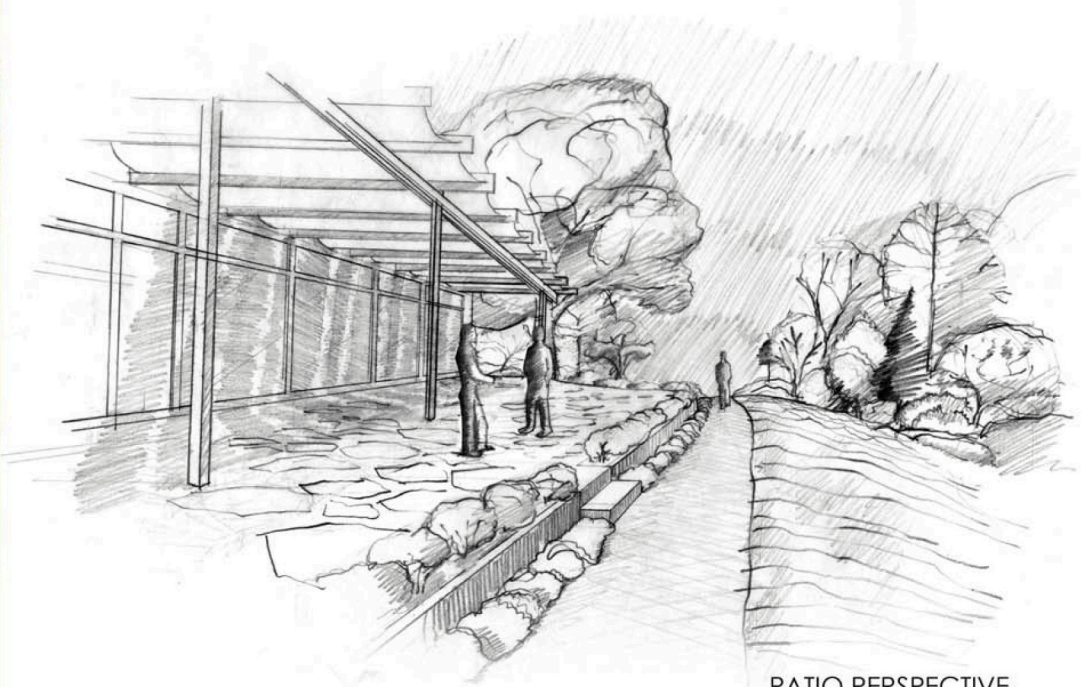


Pavilion with Green Roof

NOT TO SCALE



PATIO DETAIL



PATIO PERSPECTIVE



MUNGER LODGE EXPANSION



1 Crushed Stone



2 Pergola Shade Structure



3 Hand Washing Station

PROPOSED MULTI-PURPOSE BUILDING PLAN



1 VISITOR'S CENTER

2 STORAGE

3 RESTROOMS

4 CLASSROOM

5 HAND WASHING STATION

6 COVERED PAVILION WITH
FIREPLACE

7 STORAGE

8 CRUSHED STONE PATH

9 LIMITED ACCESS DRIVE
(DELIVERY/ADA)

● ● ● ● PUBLIC CIRCULATION

Square Footage:

PAVILLION - 1500 sq. feet

BUILDING - 1375 sq. feet

VISITOR'S CENTER - 250 sq. feet

STORAGE - 300 sq. feet

CLASSROOM - 700 sq. feet

 NOT TO SCALE

Boxerwood Nature Center and Woodland Garden
963 Ross Road
Lexington, Virginia
FINAL CONCEPTUAL MASTER PLAN

cd community design
ac assistance center
College of Architecture and Urban Studies
Virginia Polytechnic Institute and State University

This drawing is conceptual and was prepared to show approximate location and arrangement of site features. It is subject to change and is not intended to replace the use of construction documents. The client should consult appropriate professionals before any construction or site work is Community Design Assistance Center is not responsible for the inappropriate use of this drawing.



10 20 40

- KEY**
- 1 BUS TURN-AROUND
 - 2 MOWED OVERFLOW PARKING
 - 3 CRUSHED STONE PATHWAY
 - 4 ALTERNATIVE LAWN DEMO.
 - 5 ADA-ACCESSIBLE PARKING
 - 6 HERB GARDEN
 - 7 ADA-ACCESSIBLE PATH, CRUSHED STONE
 - 8 EXTENSION OF CRUSHED STONE PATH
 - 9 COMPOSTING TOILET
 - 10 OBSERVATION STRUCTURE
 - 11 COMPOST STATION
 - 12 2nd STORY ADDITION TO OPEN UP FIRST STORY FOR CLASSROOM SPACE
 - 13 THE EYE
 - 14 ZIG-ZAG BRIDGE
 - 15 POND AND OVERLOOK
 - 16 SINKHOLE
 - 17 SECOND SPRING
 - 18 BETTY'S GARDEN
 - 19 PLAY TRAIL RESTROOM
- SITE BOUNDARY
--- MAPPED TRAILS
--- PARCEL BOUNDARY
--- INFERRED TRAIL
--- GAS --- GAS GAS LINE



CONCLUSION

The conceptual master plan for Boxerwood Nature Center and Woodland Garden plays a key part in the overall process of creating a long term comprehensive plan for Boxerwood as an organization. The master plan provides a long term vision to help guide planning and fundraising efforts for the future. Master plan recommendations address visions and desires of Boxerwood board and staff members and seek to provide facilities and amenities that can help in efforts to broaden the range of current Boxerwood users and supporters, particularly adult education and partnerships with local organizations such as master gardeners.

The plan seeks to increase Boxerwood's legibility in terms of wayfinding for first time adult visitors, without reducing the essence of Boxerwood, including fun and whimsy.

Some aspects of the plan will be implemented before 2009. Other ideas are long term hopes and visions for the future.

APPENDICES

APPENDIX A: VISION SESSION AGENDA AND COMMENTS

APPENDIX B: COMPREHENSIVE PLAN SUGGESTIONS

APPENDIX C: PRELIMINARY CONCEPTUAL MASTER PLAN

APPENDIX D: ILLUSTRATIVE EXISTING CONDITIONS DRAWING - REVISED ORIENTATION

APPENDIX A: VISIONING SESSION

Boxerwood Visioning Session Saturday January 26th, 2008

Proposed Agenda:

- | | |
|-----------------------|---|
| 9:30am | Sign in, introductions, review agenda, discuss goals for the day |
| 9:45am | Discussion with Board about their current and future visions for Boxerwood; share feedback CDAC has gathered to date from staff.
Some questions to consider prior to the meeting: <ul style="list-style-type: none">• What drew you to be involved in the board;• What are your favorite things about Boxerwood;• What is Boxerwood's role in the community?• Are there things you'd like to see Boxerwood offer/do in the future that currently are not happening;• How could Boxerwood be improved |
| 10:45am | Break – use the restroom; take a quick stroll around the garden |
| 11:00am
(*STAFF) | Presentation and Discussion of CDAC's Site Inventory and Analysis for Boxerwood |
| 11:45am | Lunch |
| 12:00pm
(*STAFF) | Discuss design issues and goals for Boxerwood. Brainstorm possible directions/responses for design recommendations |
| 1:45/2:00
(*STAFF) | Recap findings from the day and adjourn |

COMMENTS FROM STAFF, BOARD, & OWNERS/STAFF

1. “Considering what we learned and did at the Visioning Session, are you satisfied, hopeful and confident that the outcome of the CDAC planning process will meet our needs?”

JS - I felt that they were great at gathering our information and putting them into maps/graphs and pictures but I didn't feel that they had a clear plan for our needs.

PL I would say about 50/50. The 50% I am sure of is that the CDAC will give us some firm ideas and direction with regard to putting together a solid master plan for the facilities, garden and perhaps even the program. I was pleased that all the board members who attended were forthcoming on their issues, questions, plans, ideas, etc. I think the CDAC indicated an ability to grasp the issues and a desire to help us.

The other half, however, of how we are going to pay for it is much less clear to me. I think the idea that we can realize greater income by “exporting” the program was pretty much negated by Elise's observations of what the education program needs to be successful. The idea of expanding the adult education part sounds wise, possibly profitable, and in keeping with our mission, but when? where? who? I think we're on our own in answering those questions. Or we will need another group to come in and advise us in that regard.

J MIR I am satisfied, hopeful, and confident that the outcome of the CDAC planning process will be of great use to BEA. I also think that the meeting on Saturday exposed some areas where we, as a Board, need to come to consensus concerning our long-term vision. We addressed it briefly on Saturday but I didn't think that the meeting was the time to take the issue further. We had limited time with the CDAC staff and needed to use it efficiently and we were missing key members of the Board who need to be present for a discussion of a BEA vision. (more below on this topic).

FV i agree with Paul that a number of issues came up that we do need to address. We have a very broad mission statement that can be interpreted in a number of different ways. Money will always be an issue and I think that is something we do need to put more emphasis on for future growth. I don't really think the CDAC can help us much with that as that is not their function. I thought they were a thoughtful, enthusiastic bunch and I think they will be very useful in terms of facility planning. I would like to know more about what they will provide aside from graphics. I am looking for documentation, a time line, etc.

MP I heard some confusion or inconsistencies on our part about what our commitments are. Are we satisfied to plan to support our present children's program or are we committed to allotting land /facilities use for adult education and handicapped access? If so, what is the balance?

Can CDAC help us plan the best use of the land to protect and promote our education program for children and adults?

Can the CDAC address how specific short-term decisions (ex. parking space, access roads) will impact our long term plans?

The board needs to look at the need for a fundraiser along with a program planner. How do we balance this in an executive director? This is a board problem, not CDAC. I assume a plan to finance the Master Plan is the board's job, not CDAC's.

In the Master Plan, Could CDAC show as a low finance alternative and a high finance alternative? Margie

HK I am somewhat unclear what they are to do for us. Are they to map out the short, mid, and long term plans with us - for us? Is it just a plan or could they help us find resources financially to help meet our goals? I think because of this process we found that we as an organization are unclear of our goals...and the meeting became unfocused and left me dazed. I am hopeful that the cdac can help with some things but maybe we are expecting too much out of them or are unclear of their mission for us?!

HM I think there is some confusion among the Boxerwood folks as to where we were/are in the process and what they should expect. I think – because information had been gathered from them - the staff thought we would be looking at plans. I think one or two of the board members were a little naive about the process and proposed outcome. As a result – I think a clear purpose statement for Saturday’s activities might have been helpful. - But yes, I am very hopeful.

JMIL No. I am hopeful. But I feel the outcome will only be a step towards meeting our needs. It will be a master plan, grand overview. It will not tell us what exactly we need to do to meet our storage need, our expanding education needs, our ongoing repair needs (how they fit in with expansion). I think it will still be up to us to color in the boxes they give us. I am hopeful it will be a big step though, allowing us to see the whole picture, and how we need to prioritize.

ES I like the trail loop idea and overall feel comfortable with the flow/logistics things they are thinking about. From the education point of view I would caution about getting too caught up about adding more structures and permanent things out in the Gardens, or at least being quite thoughtful about their placement. Part of the allure with kids is leaving civilization (the house) and exploring the wilderness, perhaps where no human, from their experience, has trod before, or almost. Too much signage and other attractions might detract from that experience--we already see that with the installed faces on the trees. Kids get so intrigued by built things that they lose the environs. I can imagine a hidden tea house or something but would put it a low priority, ditto covered classroom spaces. Like Bonnie, I like the challenge and spirit of working with the environment rather than imposing too much order on it, away from the house. The covered tents, for example, work fine. One exception: that yurt as a second congregating area, somewhere in the constellation of center buildings.

2. What do you think we should have discussed that we didn't?

JS - I would have liked to know what exactly would be done with the extra land that is up for grabs, if anything.

PL Clearly the funding end is of concern to me and others and something that the CDAC is unable to discuss. They're landscape architects, not finance people.

JMIR I think we covered what we was needed for now. As CDAC progresses and as the Board progresses with land decisions and other issues we are currently discussing, future meetings will be needed where we will know more about what we need and CDAC will have more information concerning what they are learning.

FV Definitely the need for more staffing. I hope they will be looking at the structure of the staffing at present and will address the need for specific staff positions. I think we as a Board need to put together our own timeline in terms of growth.

MP See comments above.

HK I wanted, because they had already talked to the staff, for them to talk about how they could implement changes that we had talked about in a concrete way...plans for a yurt - plans for constructing a composting toilet and organizations that already use one - ideas for new signage and ways to make the entrance more appealing... etc. I just did not feel like the first session with them a while back was really much different than the one this weekend... it did not seem to have much focus - I wish looking back that we had a preliminary discussion between the board and staff before we met with the cdac.

HM I think it would have been helpful to have a clear statement of what the CDAC can/will do for Boxerwood and a map of their process so that everyone could feel a bit more grounded. In short - This is what we do. This is how we do it. This is where we are. This is what you need to do.

JMIL Does CDAC have a business assistance aspect that has fund raising strategies?

3. What do you want to make sure gets addressed?

PL see above

J MIR I think the overall scope of the effort is correct. We need to have CDAC so what they do best. In other words, I think we are best letting CDAC continue to define the scope along the lines of their expertise. We need to continue to give them feedback and to work as a Board to address issues that they are not addressing.

One area we need to address as a Board is whether or not we are going to pursue the Munger property. If we are going to try to acquire some or all of the property, that will be important information for CDAC. I would like for CDAC to have the best possible information as they put together their plan.

FV See above.

MP See above.

HK I am interested in space issues (storage in particular), signage and getting visitors to feel welcomed (visitor center awkwardness) and parking really make me nervous/concerned and am interested in seeing more concrete ideas and ways to implement them from the cdac.

HM Once there is a plan, I'm wondering if CDAC can/will refer us to possible resources to help implement

the plans or whether we on our own.

JMIL Costs. And it may not be too late for that. When we meet with them next, we can ask them to assign some budget numbers to the various components of the plan.

4. Is there something you'd like to tell/convey to the CDAC before the next meeting?

JS (I think that covers questions 3 and 4.) This is something I was thinking about as soon as I reached my car in the parking lot on Saturday. What if we started a walking trail from the parking lot through the pioneer forest and down around that way. Put a Plexiglas trail type of sign board that has a trail map, and sign that says trail one way, play trail another and visitor center straight ahead. This way I think people would feel more comfortable to be able to hike from the parking lot instead of going down by the visitor center where people get confused and don't know where to go or want to interrupt anything that is going on in there. I see so many people walking around on the Chessie Trail with children, dogs or just people out for a jog or brisk walk. Could we have a better walking or even jogging trail or does that defeat the purpose and dream of Boxerwood. I think that if we got more of those people and families feeling more comfortable here we would get more people involved and interested in Boxerwood.

PL I don't think any of my concerns are anything that the CDAC can deal with.

I enjoyed the conversation enormously; feel as though the staff's presence was invaluable. and feel like I learned a lot. I confess, however, to a sense of frustration that we were unable to brainstorm on ideas of funding. I look forward to hearing CDAC's ideas but it would be most helpful if their ideas could also have a price tag associated with them so we could face that side of things as well.

I guess my final thought is something that has just occurred to me but a rather important item: before we pursue much in the way of a master plan, we need to give serious consideration to staffing. I think Hunter's experience with the current fund-raising event points out that we are asking too much of our staff. Another example: as we consider expanding the adult education program, who would oversee that? If we are going to implement the master plan that includes new things or new events, who in the world can we expect to manage those? What about volunteers? Fund-raising? Hunter's retirement or movement into new responsibilities? Again, these are way outside of CDAC's realm but exceedingly important issues.

J MIR A thank you for the work to date and for meeting with us. The meeting was extremely useful and we look forward to the next installment and to the next meeting.

To follow up on my "vision" comment, I think we need to know where we are headed in the future (say next ten years). What programs will we pursue and what geographical areas. I think our programmatic future needs to be meshed with our fundraising future. Paul (in his email) commented on whether certain programs would be moneymakers. I think we also need to think in terms of whether certain programs could break even and would increase our friend raising capability. Then we can address whether that in turn would increase our ability to get grants and donations.

With regard to the program, I would like to hear more about everyone's ideas about the future of the program with regard to both program content and geographical footprint. A point was made at the meeting that some programs will "travel" better than others, thus not all programs need to have the same footprint. In developing the vision, can we get a feel for how program content and geographical footprint will affect our ability to increase grants and donations? This in turn will affect our decision concerning land acquisition.

FV A huge thank you! We seem to get mired in minutiae sometimes and it is hard to see the forest for the trees.

MP I was very impressed with the group. They were great listeners and had done their homework. We are lucky to have them. I agree with FV that a time line would be helpful.

HK I liked what MP said about the CDAC showing us plans with different price tags - many alternatives for reaching similar garden goals. Ultimately we have to be financially realistic for what we can do and what is most important for us...what do they see after being at Boxerwood two times as the most important of our dreams? why?

HM I noticed the staff was looking for "what had become of their feedback/input" while the board was split between (1) wanting to give input for the 1st time and (2) thinking the CDAC were magical consultants with answers to our as yet unidentified issues. There seem to be two positions "tell us where to go" and/or "help us find our way." I think it would be helpful if the CDAC people could make clear purpose statements and describe the expected outcome for the various sessions/meetings.

JMIL Thank them for all their time and efforts, it was good to meet with them.

INTRA-BOXERWOOD NOTES & ADDITIONS:

HK Before they come again I think that it would be beneficial to have a meeting with the staff and board to better understand where we are both coming from. They are the ones that have to think of the financial end of the organization while we implement the mission...to move forward in discussions with the cdac it might be nice not to have to deal with personal matters during their time with us and rather listen to how they can help us.

ES TO THE BOARD: This confuses me some. I was surprised by the assumption behind some comments, re the sense of growth and extension of programs and activities. As Education Steward, I feel perhaps I have been remiss in not conveying the terrain sufficiently for their good decision-making: namely, that expanding education programs, at this point anyway, will never be the income generator they hope, and that more growth (v. sustaining the robust program we now have) in this area is not advisable: it will only dig the hole deeper. Perhaps the board might want me to share my experiences/feelings/ behind these opinions? I'm also thinking it might be interesting for the board to see some pie-charts that break down the various categories of public we're serving , plugging in data we already have.

I also believe that pinning hopes on adult education is also tenuous, especially when balanced with staff and labor: Even with ten workshop at 1000 each might BEA would gross 10000 a year but that as you know is not the scale of income the organization is looking for. In short, I think we're close to the point where expanding is a poorer choice than digging our roots as we are. Guess that means wooing foundations for ongoing support or wrapping Earth Day with annual funding events (when people are happy its spring and already thinking about green). Personally I like your waste management business best: 200 homes @ \$240 a year = \$48,000, annually. Not much building of new infrastructure involved. Steady cash. And a service.

Those are the two areas of thought--I appreciated the chance to be there and was sorry to have missed the a.m. discussion. Many thanks to them for their efforts and for the board, their time, and especially their thoughtful full heartedness.

APPENDIX B: COMPREHENSIVE PLAN SUGGESTIONS

The CDAC team developed a draft outline for a Comprehensive Plan for Boxerwood. This document would be an analysis of what exists and happens currently at Boxerwood and a vision for how this will either be sustained or grown in the future. It seems very important to create such a document which would be revised and updated every few years to assure that Boxerwood continues on well beyond the involvement any one person.

Blue highlighted sections are pieces of the comprehensive plan that the CDAC team directly addressed with this project:

A Comprehensive Plan for Boxerwood

- I. Introduction
 - A. Explain what this document is and how is it intended to be used
 - B. The process used to create this document
 - C. The people involved in creating this document
- II. Background
 - A. History of Boxerwood
 - B. Mission statement
- III. People at Boxerwood
 - A. Hunter and KB's roles and responsibilities
 - B. Staff members and roles and responsibilities
 - C. Board members and roles/areas of knowledge
 - D. Identify areas of need now and in the future- more staff, volunteers, additional board members etc.
- IV. Community Outreach
 - A. Education programs currently offered and who they serve
 - B. Current #'s of visitors per year and demographics
 - C. Identify areas for future growth- how can service be expanded to the larger community, how can more adults be reached etc.
- V. **Physical Environment**
 - A. **Site Inventory and Analysis- slope, watershed, existing vegetation, circulation, context, indoor space, identify areas with issues/needs/opportunities**
 - B. **Design Guidelines- a set of guidelines to guide future growth and maintenance on site**
 - C. **Site Master Plan- a vision for the future of the physical site incorporating both short and long term goals**
- VI. Finances
 - A. Income- memberships, grants, in-kind donations
 - B. Expenses- salaries, maintenance
 - C. Identify areas of need and areas for future growth- are the current levels of income adequate for working toward the future vision, is the current financial situation sustainable, are there opportunities for economic development etc.
- VII. Local Community Assets
 - A. Identify local organizations that have overlapping interests (i.e. garden clubs, native plant society)
 - B. Identify programs or other ways to engage these organizations
- VIII. Overall Goals, Objectives and Strategies for Future Growth
 - A. Vision for future growth
 - B. Goals and objectives- ordered
 - C. Strategies

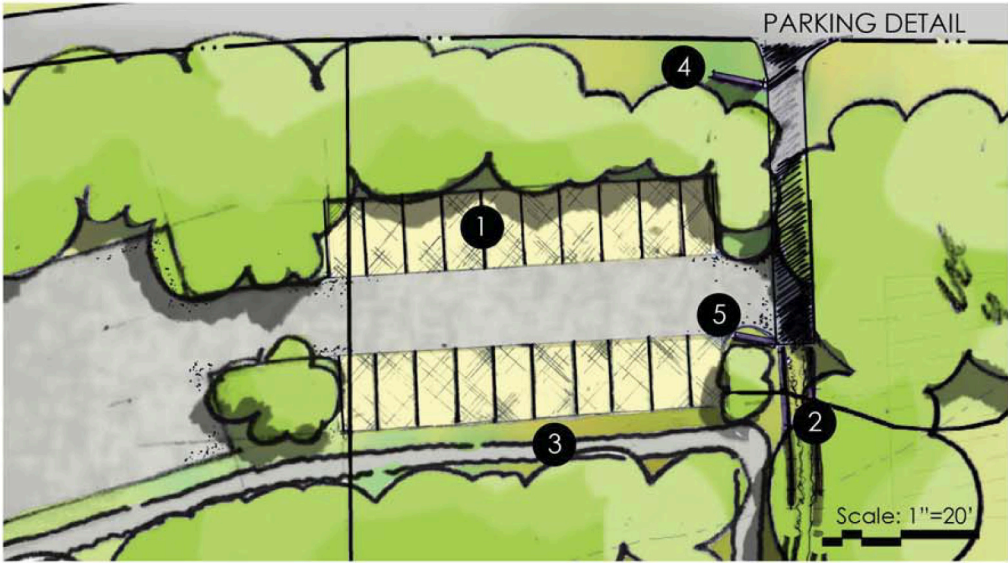
APPENDIX C: PRELIMINARY CONCEPTUAL MASTER PLAN



Boxerwood Nature Center and Woodland Garden	 community design assistance center <small>College of Architecture and Urban Studies Virginia Polytechnic Institute and State University</small>	<p>This drawing is conceptual and was prepared to show approximate location and arrangement of site features. It is subject to change and is not intended to replace the use of construction documents. The client should consult appropriate professionals before any construction or site work is Community Design Assistance Center is not responsible for the inappropriate use of this drawing.</p> 
963 Ross Road Lexington, Virginia		
PRELIMINARY CONCEPTUAL MASTER PLAN		



<div>Boxerwood Nature Center and Woodland Garden</div> <div>963 Ross Road Lexington, Virginia</div> <div>DETAIL DRAWINGS</div>	<div><div><div>c</div><div>d</div></div><div><div>a</div><div>c</div></div></div> <div>community design assistance center</div> <div>College of Architecture and Urban Studies Virginia Polytechnic Institute and State University</div>	<div>This drawing is conceptual and was prepared to show approximate location and arrangement of site features. It is subject to change and is not intended to replace the use of construction documents. The client should consult appropriate professionals before any construction or site work is Community Design Assistance Center is not responsible for the inappropriate use of this drawing.</div>	<div></div>
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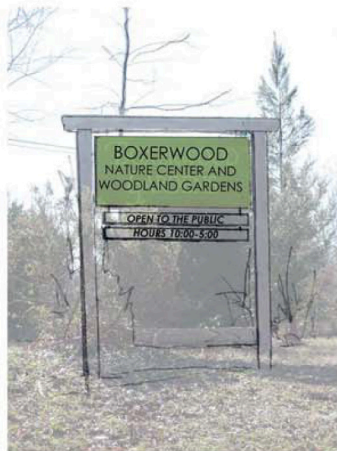
3 -Garden Master Plan
-Historical Information



1 Porous Pavers



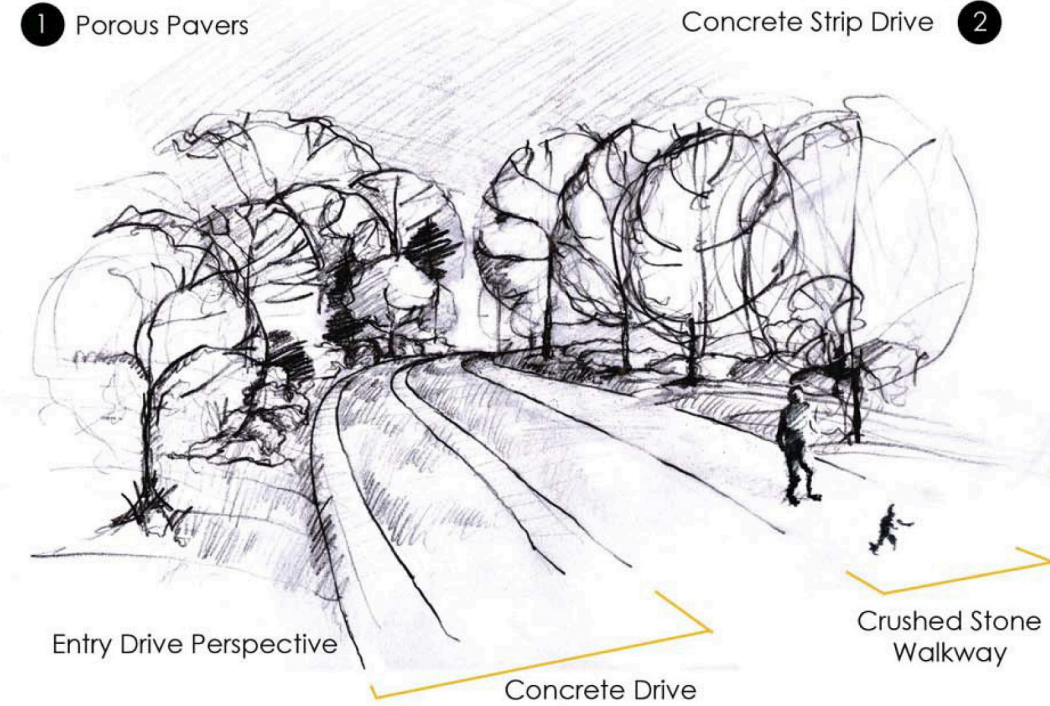
Concrete Strip Drive 2



4 Main Entrance Sign



5 Directional Sign



Entry Drive Perspective

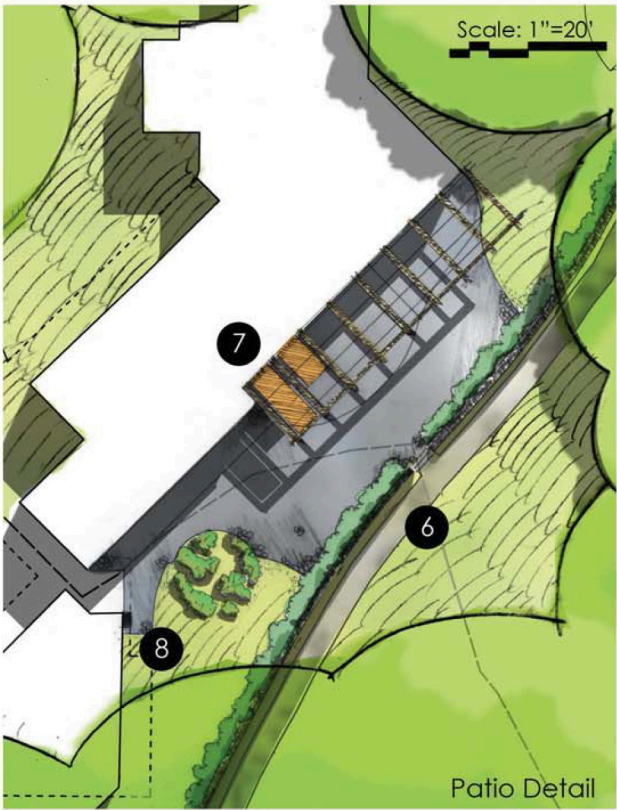
Concrete Drive

Crushed Stone Walkway

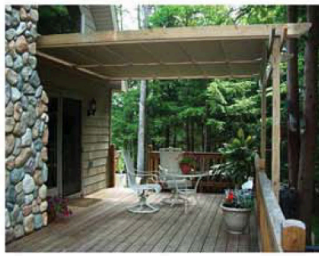


Trail Loop Sign

Entrance Night Lighting



6 Crushed Stone



7 Pergola Shade Structure



8 Hand Washing Station

Composting Toilet



APPENDIX D: ILLUSTRATIVE EXISTING CONDITIONS DRAWING - REVISED ORIENTATION

The Boxerwood staff asked the CDAC team to make some minor revisions to the illustrative existing conditions drawing to increase its usefulness for garden visitors. The CDAC team was asked to change the orientation of the drawing and make some minor labeling alterations. The revised illustrative existing conditions drawing is now serving as a wayfinding tool for visitors to Boxerwood.

An 11x17 fold out of the revised drawing can be found on the following page.

BOXERWOOD NATURE CENTER AND WOODLAND GARDEN

