

MASTER PLAN



DELAWARE
BOTANIC
GARDENS
AT PEPPER CREEK

RAS

Robinson Anderson Summers, Inc.
Landscape Architects



LETTER FROM DELAWARE BOTANIC GARDENS

Dear Friends:

On behalf of the Board of the Delaware Botanic Gardens, we are excited to share the Master Plan that completes the overall design review commissioned in early 2016. This process has included nationally and internationally recognized leaders in the fields of garden design, architecture and landscape architecture.

Our objective is to create an inspirational visitor experience at the 21st century garden we will build on our 37 acre site on Delmarva. The scope examined our original home-grown plan, the inherent beauty of the site, and trends in public garden design and management. The Master Plan has woven together the talents of our Design "Dream Team" of Piet Oudolf, Lake/Flato and RAS with the engineering and construction expertise of our "Reality Team" of Pennoni Associates and Bancroft Construction Company.

We believe that when you review the Lake/Flato Design Concepts, Piet Oudolf's Meadow design and the RAS Master Plan, you too will be inspired and begin to picture visitors sharing our 2 acre native perennial Meadow with hundreds of pollinators and birds. We hope you can envision adults and children experimenting with the water in our outdoor living wetland classroom; wandering through the naturalistic Woodland Gardens celebrating our Coastal Plain horticulture; being inspired by the views of Pepper Creek and being drawn to the convergence of nature and architecture at our Visitor Center.

The Board wants to recognize all of the dedicated and talented participants who contributed to this creative process. We are indebted to the key leadership of Carla Markell as Chair of our Advisory Council. We also wish to make note of our public garden colleagues who have generously shared their expertise and experience with us throughout this process. These collaborative partnerships with horticultural, garden and preservation professionals have been, and will continue to be, key to our ability to implement our mission.

Special thanks go to Rodney Robinson, Allan Summers and the entire RAS team for their work in creating this Master Plan. It will guide the direction of the Delaware Botanic Gardens for the foreseeable future and it will ensure that our visitors will be inspired.

To make the Delaware Botanic Gardens a reality, we need the continued support of enlightened philanthropic and political leaders, generous supporters and civic-minded businesses.

We need you!



Susan Ryan
President



Sheryl J. Swed
Executive Director

Board of Directors

Susan Ryan, **President**

Sheryl J. Swed, **Executive Director**

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▪ Photo Credit: Inside front cover courtesy of Piet Oudolf. Inside back cover courtesy of Ken Arni

ACKNOWLEDGMENTS

We wish to thank the Board of Directors of the Delaware Botanic Gardens for the opportunity to collaborate with them and other members of the planning team in the creation of this Master Plan for the Gardens. The Gardens will be unique among American public gardens in that they will represent a true grass-roots effort to create a place of horticultural splendor from what was formerly raw agricultural land.

To get this far, the Delaware Botanic Gardens has enjoyed generous support from civic-minded foundations, corporations, individuals, elected officials, and enthusiastic volunteers. In particular, we would like to thank workshop participants and others who contributed their shared wisdom and experience.

Robinson Anderson Summers, Inc.
Landscape Architects
February 2017

Sincerely,



Rodney D. Robinson, PRINCIPAL, FASLA, PLA, LEED AP



Allan Summers, PRINCIPAL, PLA, LEED AP, ASLA

- Ken Arni
- Bob Batley
- Ronnie Burkle **
- Peter E. Carter*
- Sam Cashdollar
- Mark Chura
- Ruth Rogers Clausen*
- Mark Davidson
- Henry DeWitt**
- David Doane*
- Ted Flato
- Dennis Forney
- David Green*
- David Heatwole
- Barbara Katz
- Ferenc Kiss
- Diane Maddex*
- Piet Oudolf
- Mike Petka
- Janet Point*
- Donald Rakow**
- Peggie Ravida
- Mike Riska**
- Susan Ryan*
- Raymond J. Sander*
- Greg Sawka
- Nelson Shaffer**
- John Schroeder
- Holly Shimizu**
- Margaret Sledge
- David Small**
- Sheryl J. Swed*
- Gregory D. Tepper*
- Claudia West**
- Cam Yorkston

- * Delaware Botanic Gardens Board of Directors
- ** Delaware Botanic Gardens Advisory Council



EXECUTIVE SUMMARY

While the State of Delaware enjoys a rich horticultural history that is second to none in the United States, that tradition has largely resided in the northern half of the State. The Delaware Botanic Gardens will bring public horticulture in a new and significant way to southern Delaware and the surrounding Delmarva Peninsula. Conceived from a private vision, the project has evolved into a grass-roots effort of volunteers, experienced professionals, business leaders, and elected officials.

The mission of the Gardens is to create an inspirational, educational, and sustainable public garden in Delaware for the benefit and enjoyment of all. Garden visitors will represent a diverse cross-section of our population, and to that end, the Gardens and facilities will be planned to offer opportunities for enjoyment that bridge cultural, ethnic, economic, and generational circumstances.

The focus of the horticultural collections will be to showcase the rich diversity of plants that either occur naturally or can be grown in the Delmarva coastal region. First and foremost, the Gardens and buildings will be beautiful and will distinguish themselves from other public gardens with forward-thinking, regionally inspired design.

It is important to remember that, while the mission of a public garden might be education and horticultural inspiration, the business of the garden is entertainment. In order to be self-sustaining, a public garden must have many visitors and their visit must be so special that they will want to return again and again.

The purpose of a Master Plan is to provide a vital roadmap to guide the future development of the Delaware Botanic Gardens so that it will become one of the premier public gardens in the mid-Atlantic region. In order to accomplish this task, the Master Plan must respond to the character and opportunities inherent in the landscape, articulate a vision for the future gardens that teach and inspire visitors, set a standard for excellence in horticulture, create opportunities to reach a large audience, provide for gracious visitor services, recognize opportunities to partner with other cultural institutions, and lay out an organized sustainable plan for growth.

The Master Plan is less a design and more a tool for guiding the ongoing design process. The Plan will organize the site, identify the various kinds of gardens and plant collections, establish the general character of the major garden elements, and define the palette of materials to be incorporated into subsequently more detailed designs.

SITE ANALYSIS

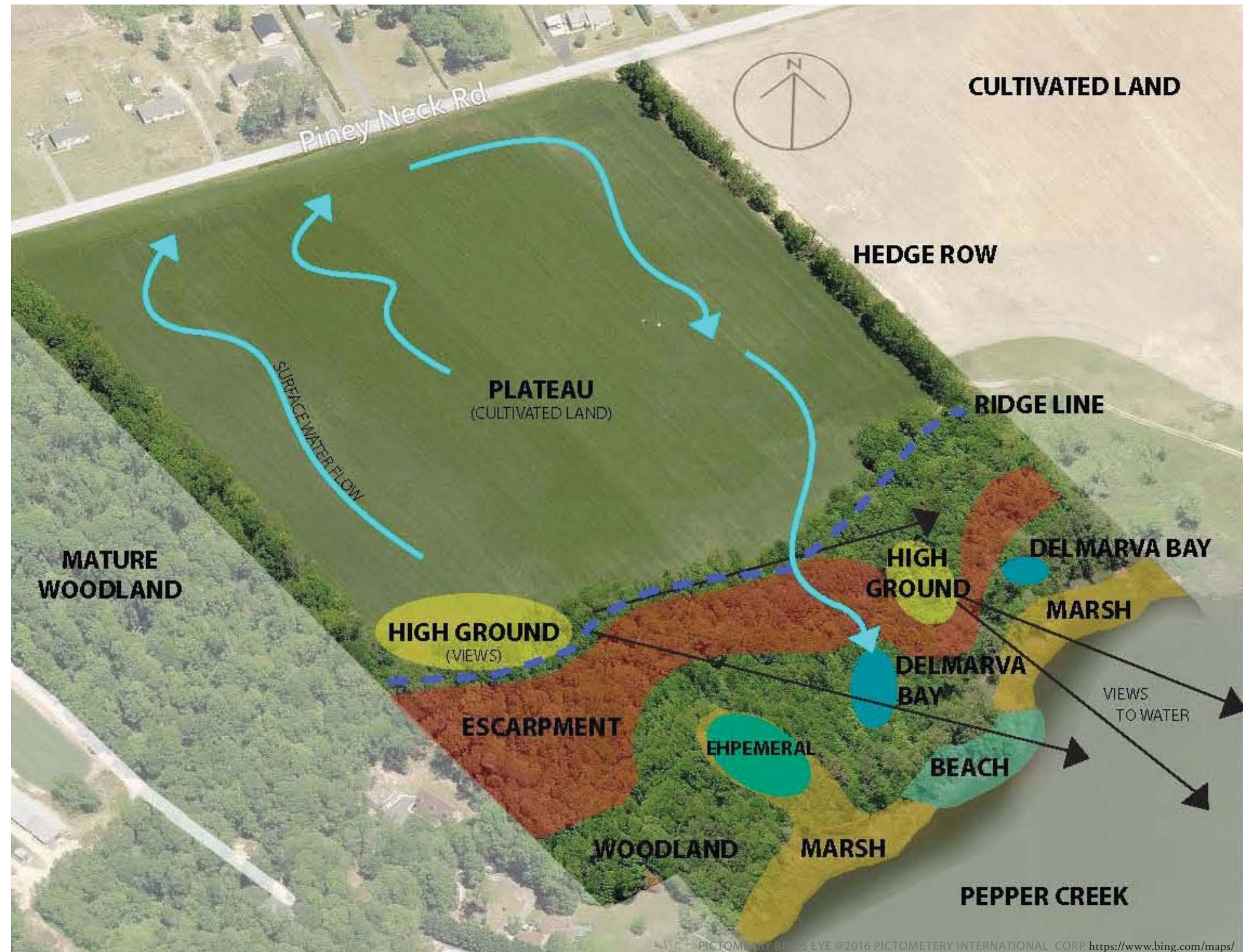
The Delaware Botanic Gardens occupies a 37-acre parcel of land outside Dagsboro, Delaware. The property is bordered by mature woodland to the southwest, Piney Neck Road to the north, hedge row and cultivated lands to the northeast, and Pepper Creek to the southeast.

The site offers unique opportunities for garden development with three distinct parts. Two-thirds of the site is an upland plateau of open nearly level cultivated field. Separating the plateau from the water is a mature late-successional woodland on a pronounced escarpment overlooking the water twenty feet below. The views from the high ground through the woodland toward the water are dramatic and surprising.

The tree canopy is a diverse mixture of native oak, pine, maple, cherry, black gum, holly, and magnolia.

The Pepper Creek shoreline is largely marsh grass, but in the center of the site is a small sandy beach affording access to the water by foot. Separating the escarpment from the shoreline is undulating woodland with three wet areas. Two of the areas are small Delmarva bays — unique and rare depressions known for their rich bio-diversity.

The soil is sandy loam to loamy sand. The woodland floor is mostly well-drained and covered with a thick organic layer. High shade offers a perfect environment for immediate garden establishment. Soil permeability varies significantly across the upland plateau due to the intermittent presence of hard pans. In general, permeability for stormwater management is very poor along the woodland edge but increases dramatically as the land slopes imperceptibly toward Piney Neck Road.



VISUAL CHARACTER



1 VIEW EAST TO WOODLAND EDGE



2. VIEW EAST TO HEDGE ROW



3. CLEARED WOODLAND WITH ACCESS PATH



4. EAST VIEW ACROSS DELMARVA BAY



5. VIEW OF PEPPER CREEK



6. BEACH VIEW

OPPORTUNITIES AND CONSTRAINTS

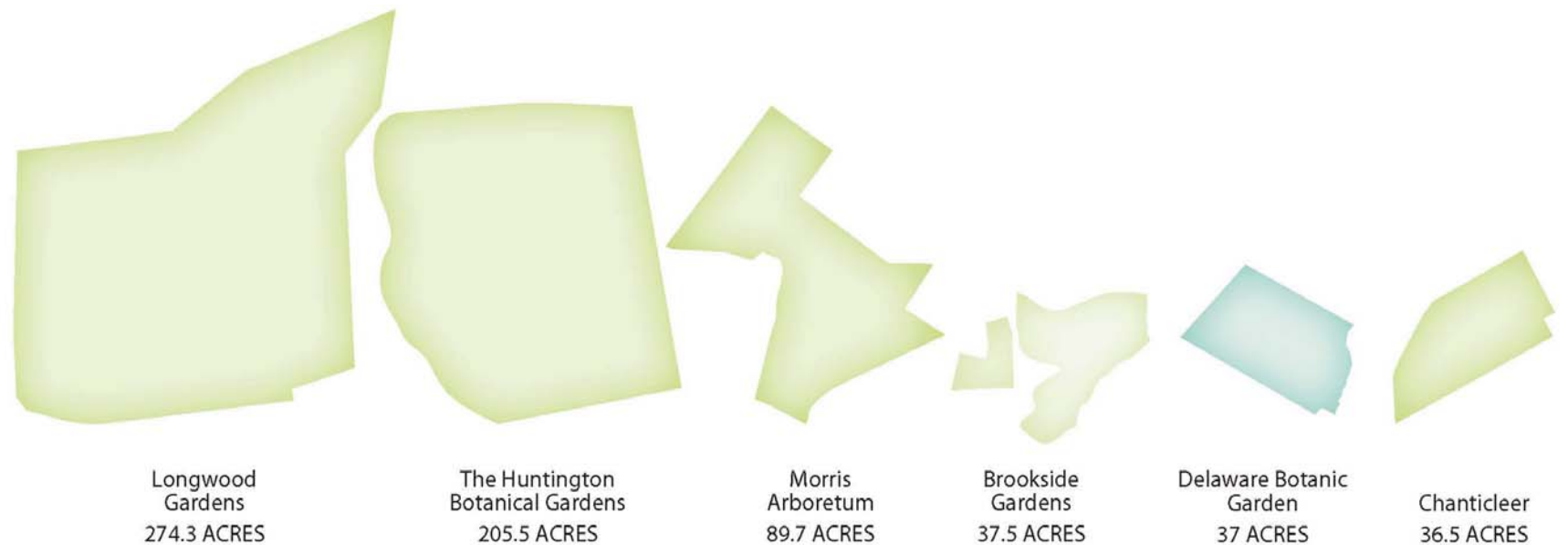
- The property can be entered from multiple locations along Piney Neck Road, affording the opportunity to create an attractive and safe public entrance experience.
- The property is undeveloped. Its size and configuration offer the potential to develop multiple gardens in zone 7b with dramatic contrasts: expansive landscape expressions versus intimate gardens, flat versus sloping, bright sun versus deep shade, wet versus dry, distant versus intimate views.
- The slope conditions add drama to the land form without prohibiting accessibility throughout the Gardens.
- The mature woodland canopy not only contains a diverse collection of noteworthy trees, but it permits the immediate establishment of plantings requiring shade.
- The two Delmarva bays offer a unique opportunity to showcase rare and endangered habitats.
- The property is completely exposed to Piney Neck Road. A substantial buffer will have to be introduced to minimize visual and acoustic impacts of traffic.
- Land to the northeast is available for substantial residential development. Effective visual screening will be required.
- The residential character of the neighborhood is to be embraced and accommodated.
- Damage from deer browse is a major hurdle to overcome.
- Local stormwater-management regulations are strict and often prescriptive. Opportunities to exceed requirements and demonstrate new creative best management practices will be found.



INITIAL CONCEPT SKETCHES

RENDERINGS BY LAKE / FLATO

Entry, parking and buildings should hug the southwest property edge to maximize space for future garden development.



COMPARABLE GARDEN SIZES

To gain a better understanding of how large 37 acres is, a size comparison diagram compares the Delaware Botanic Gardens site to other well-known public gardens.



WORKSHOP I

PHASE 1 CONCEPT

The first workshop was a concept development charette with the project working group. This included architects Lake/Flato, garden designer Piet Oudolf, consulting engineers Pennoni Associates, Bancroft Construction Company, landscape architects Robinson Anderson Summers, and members of the Board of Directors and Advisory Council. The goal was to come away with a shared attitude toward various physical attributes of the property and begin to develop the overall vision for the Gardens. Physical attributes included:

- The character of the Meadow Garden and how it might interact with other site elements.
- The first building and how it connects to various parts of the site.
- The particular natures of the upland plateau, woodland, and water.
- An understanding of the demands that influence program and scope (audience, staffing, operational needs, educational programming and seasonal demands.)

Key components to the Garden vision include:

- Always be beautiful.
- Be innovative and forward thinking.
- Teach by example the best practices in land stewardship.

- Provide an outdoor wetlands classroom for both passive and structured educational experiences.
- Connect children and adults to nature.
- Demonstrate the intersection between horticulture and ecology.
- Reach out to the rapidly growing year-round community.
- Attract a wide audience and encourage repeat visitation.
- Accommodate festivals and special events.

Key components to garden and building design include:

- Design should be landscape dominated.
- Express a connectedness between agricultural traditions, coastal plain habitats, an ecological design ethic, and artistic expression.
- Design and materials will frame the visitor experience. Visitors should feel like they are in a special place the moment they drive onto the site.
- Agricultural buildings inspire the architecture - integrate simplicity of form with refinement in construction.



PIET OUDOLF

MEADOW GARDEN

The world-renowned Dutch garden designer Piet Oudolf has been retained to design a Meadow Garden in the upland plateau. Sometimes called “dream landscapes,” Oudolf’s exuberant palette of mostly native ornamental grasses and herbaceous flowering plants will create spectacular four-season color and textural saturations against a distant horizon.



CONCEPTUAL SKETCH



IMAGES OF PIET OUDOLF'S WORK

Piet Oudolf | Broekstraat 17 | tel +31 (0)314 381120
6999 DE Hummelo | fax +31 (0)314 381199
The Netherlands | info@oudolf.com



LAKE / FLATO

ARCHITECTURE

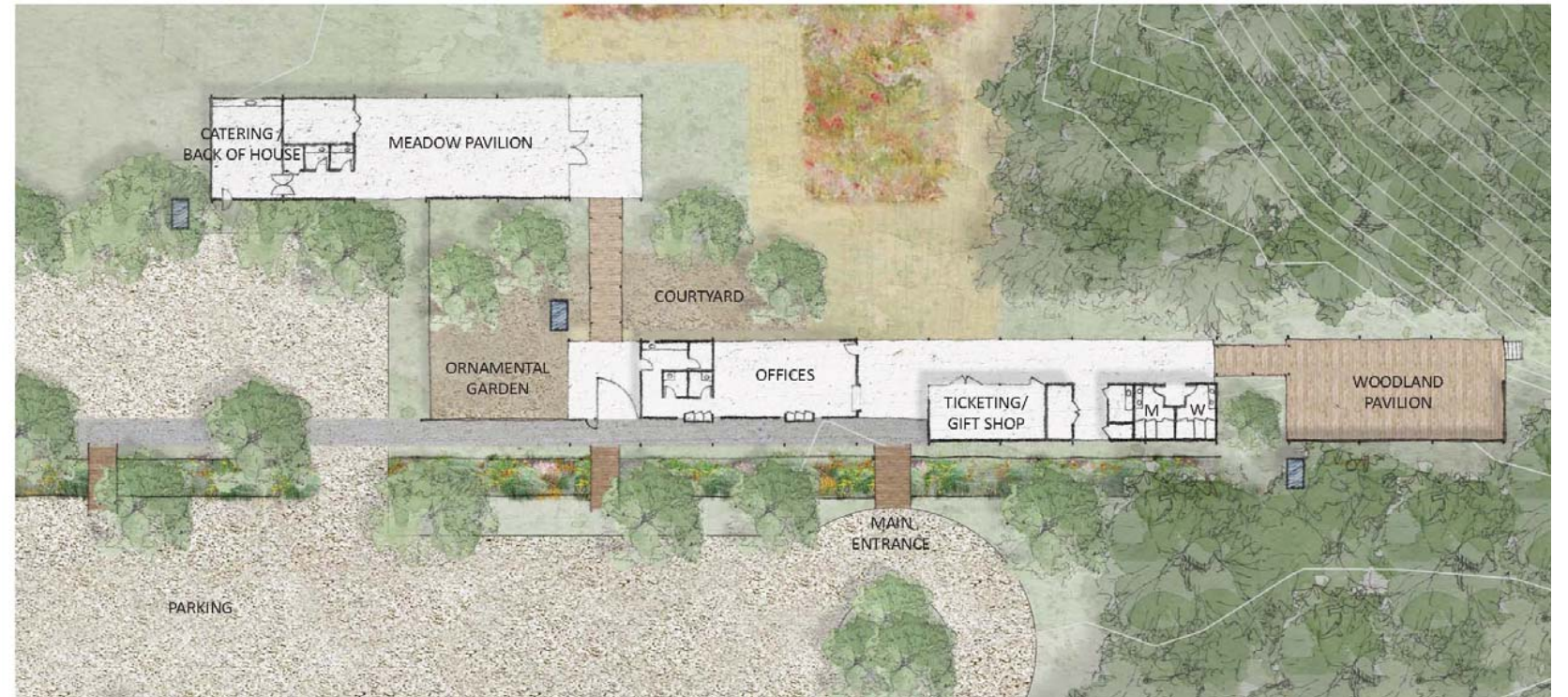
Designed by nationally acclaimed architects Lake/Flato, the Visitor Center serves as a gateway to the Gardens. Straddling the natural intersection between woodland and meadow, the north end of the building is in sun-lit open space and faces onto the Meadow Garden. The southern end of the building penetrates the shaded woodland and overlooks the water.

The architecture will be rooted in Delmarva, familiar but elegant with simple geometries and primarily of wood. The buildings are designed to be flexible, space-efficient structures with generous open-air porch-like spaces. Their transparency integrates them into the surrounding gardens and woodland.

First Phase: a large unconditioned multipurpose pavilion.

Next Phase: completion of Visitor Center including addition of climate-controlled offices, multipurpose meeting space, restrooms, and woodland pavilion.

Later Phase: addition of a climate-controlled event space to the east of the main Visitor Center.



PROPOSED FLOOR PLANS



INTERGATED BUILDING AND GARDEN



WOODLAND PAVILION



GATEWAY TO THE GARDENS

PARKING LOT AND RHYNE GARDEN

The Gardens' entrance experience is a linear progression of landscape and building elements beginning at Piney Neck Road and ending at the woodland edge. Inspired by the orthogonal geometry of the surrounding agricultural lands, the parking lot landscape references hedge rows, field culverts, and shell drives to create a parking garden paralleling the western property line. Integral to the design is the conveyance of stormwater from the buildings and parking areas to infiltration basins via a reinterpreted tax ditch or "rhyne."



LOCAL TAX DITCH



PROPOSED RHYNE



EXAMPLE CULVERT BRIDGE



PROPOSED PARKING WITH RHYNE



WORKSHOP II

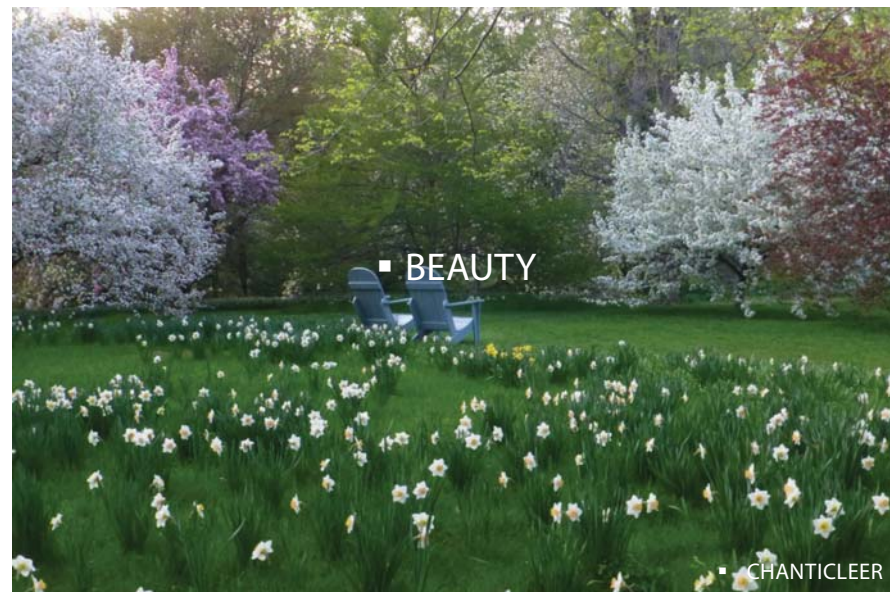
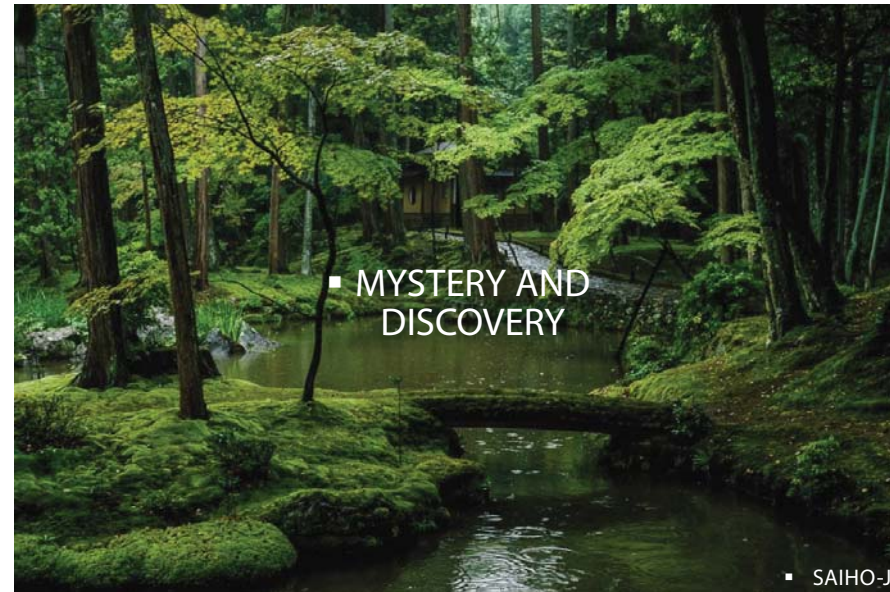
In the second workshop, the goal was to confirm program requirements and reach consensus on a garden development plan that identifies and locates all future garden elements. The effort began with a conversation about vision and focused on those elements that make a great public garden experience. They include:

- Beauty.
- Imagination and uniqueness.
- Mystery and discovery.
- Intimacy and immersion.
- Creative and impeccable horticulture.
- Demonstration and education.



PRELIMINARY CONCEPT PLAN FROM WORKSHOP II

VISION—GARDEN ELEMENTS



MASTER PLAN

The aesthetic character of the Delaware Botanic Gardens is to be one of horticultural exuberance and artistic refinement. The inspiration will come from the juxtaposition of vernacular landscape geometries with the organic forms found in nature. A consistent identity and character must remain recognizable throughout the Gardens and the temptation to create a menagerie avoided.

Everything, from architecture to storm water management to planting design, will represent and express an ecologically based design ethic. In fact, a primary goal of the Gardens is to instill in its visitors a respect for the natural world, an awareness of the forces that threaten that world, and a commitment to not take it for granted.

Garden Organizing Elements

- A single public entrance off Piney Neck Road with a gate, sign and attractive planting will announce the Gardens.
- Attractively planted buffers will screen the Gardens from neighboring properties and Piney Neck Road. A deer fence will secure the perimeter of the property.
- Garden parking will accommodate 170 automobiles and five buses with overflow parking on turf areas.
- A maintenance yard and building will be located in the northeast corner of the property. A perimeter service drive will connect maintenance vehicles to all major portions of the Gardens.
- All visitors will enter through the Visitor Center onto an entrance yard bordering the Meadow Garden. From the entrance yard multiple paths will lead to a variety of gardens. An accessible pedestrian loop path system will connect visitors to all garden areas.

- Near the center of the upland plateau, a fresh water pond will serve as a focal point for multiple surrounding gardens. Water is a reoccurring theme throughout the Gardens.

- The discovery Garden will focus on children and interactive experiences in nature.

- Visitor services will include multiple restrooms, a cafe, meeting and demonstration spaces, as well as wedding and special events venues.

- Architectural and sculptural features will be considered to give meaning and distinct identity to places.

Garden Components

Parking and Rhyne Garden

Visitor and Events Center, Cafe

Meadow Garden

Edge Garden with Amphitheater

Gallery Garden

Demonstration and Display Garden

Coastal Living Garden

Cascade Garden

Freshwater Pond

Bald Cypress Garden

Discovery Garden

Native Plant Garden

Outdoor Wetlands Classroom

Maze

Woodland Gardens

Kalmia – Azalea Knoll

Pine Savannah

Grotto

Oak Glade

Magnolia Forest

Delmarva Bay Gardens

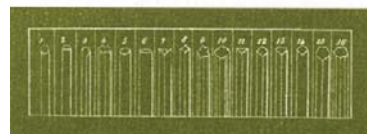
Asian - European Bank



MASTER PLAN

DELAWARE BOTANIC GARDENS MASTER PLAN

Piet Oudolf
 Broekstraat 17
 6999 DE Hummelto
 The Netherlands
 tel +31 (0)314 381200
 fax +31 (0)314 381999
 info@oudolf.com



LAKE | FLATO



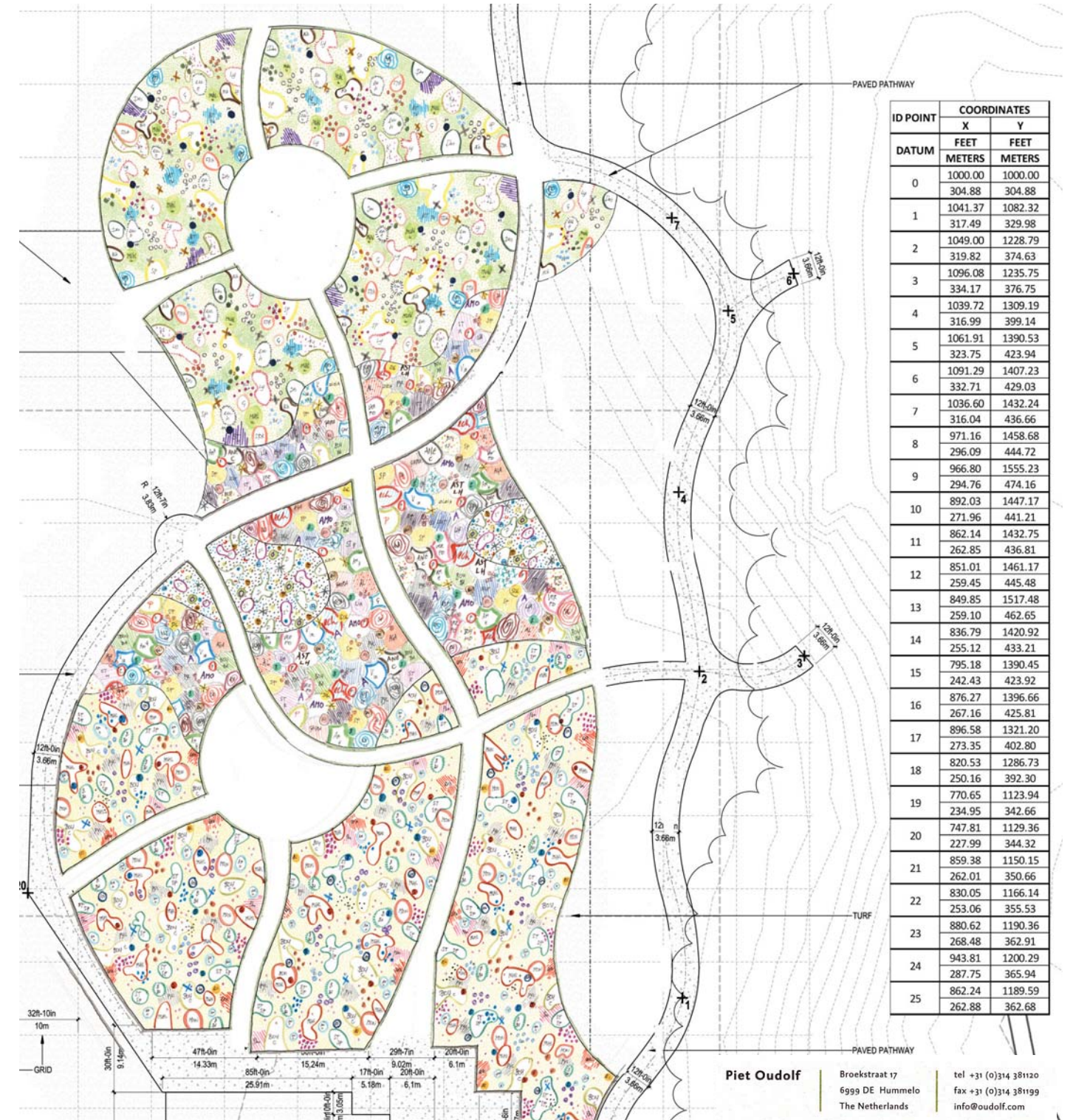
MEADOW GARDEN

BY PIET OUDOLF

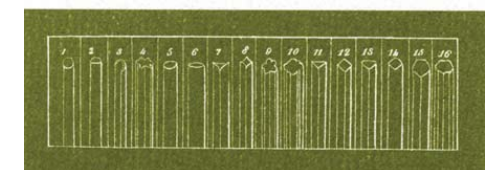
Located on a sunny 2-acre area just outside the woodland edge, the Meadow Garden will be the primary focal point as visitors enter through the Visitor Center. Sixty-five thousand herbaceous flowering plants and ornamental grasses will provide year-round splendor.



IMAGES OF PIET OUDOLF'S WORK



PIET OUDOLF PLAN FOR MEADOW



GALLERY

The Gallery Garden is a large outdoor room with an axial orientation connecting the Fresh Water Pond with the Meadow Garden. Severely clipped hedges contrast with surrounding gardens and define a space that provides a venue for performances, temporary installations, weddings, and other special events.



CONCEPTUAL RENDERING THROUGH GALLERY

DISPLAY, DEMONSTRATION, AND COASTAL LIVING GARDENS

Many visitors come to a botanic garden to learn how to become better gardeners. Display gardens can expand the palette by introducing new cultivars and presenting plants in inspiring seasonal compositions. The Demonstration Garden can provide a wealth of up-to-date information on best horticultural practices for vegetable, herb and flower gardens, and more. The Coastal Living Garden will demonstrate how the homeowner can integrate the house with multi-functional landscapes and how those landscapes can be best managed with techniques that are ecologically grounded and appropriate for our coastal environment.



▪ PRIVATE GARDEN



▪ DALLAS BOTANICAL GARDEN



▪ REIMAN GARDENS



▪ PRIVATE GARDEN

FRESHWATER POND AND BALD CYPRESS GARDEN

A 1.5-acre freshwater pond will take a central position in the Gardens. Multiple garden experiences will focus on the still, reflective water. A continuous border of submergent, emergent, and terrestrial plantings will create a rich display and support wildlife.

A stand of bald cypress trees will emerge from the pond on the northern shoreline, eventually mixing with a dense backdrop of loblolly, and other native pines. The deep shade will support a community of moisture-loving shrubs, ferns, and ground-cover plantings.



CONCEPTUAL RENDERING OF BALD CYPRESS GARDEN

CASCADE GARDEN

Moving water is extremely popular in any garden. The Cascade Garden will occupy a knoll created from the earth removed to create the Freshwater Pond. Stacked terraces of water and plantings cascade down to create a hanging garden effect. Visitors will delight in the sound and cooling effects as the water makes its way to the pond below.



CONCEPTUAL RENDERING OF CASCADE GARDENS

DISCOVERY AND NATIVE GARDENS

An isolated wetland will be created by Envirotech Environmental Consulting and will provide an outdoor classroom for the study of plant and invertebrate communities associated with freshwater wetlands. Educators, students and visitors will find a diverse collection of indigenous flora and fauna to sample and study.

The Native Plant Garden will demonstrate how to successfully plant a residential landscape and garden using plants indigenous to the mid-Atlantic coast.

The Discovery Garden will be an interactive experience and a fun place to modify the landscape by manipulating natural objects to create places, build structures, and divert water.



▪ LADEW TOPIARY GARDEN



▪ WEB



▪ BETTY FORD ALPINE GARDEN

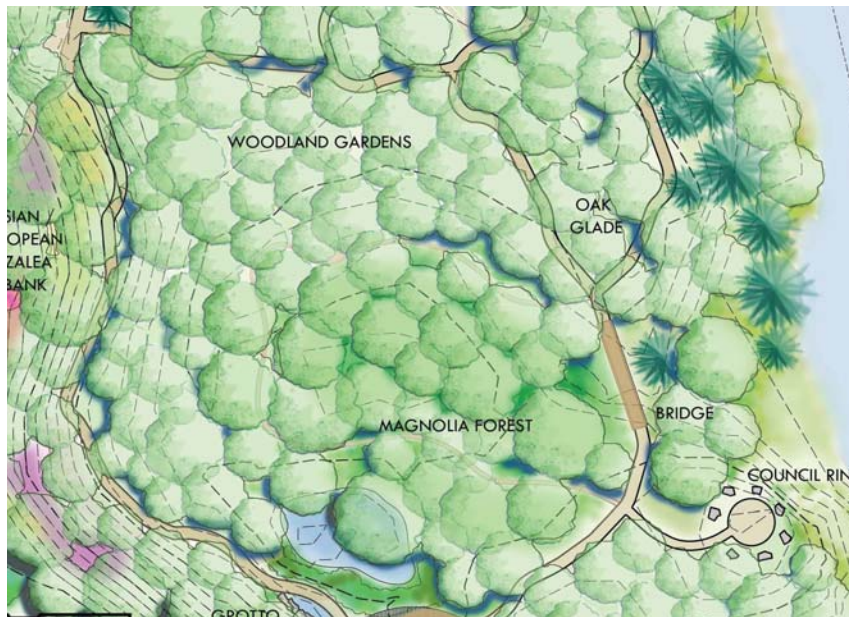


▪ WEB

WOODLAND GARDENS

The Woodland Gardens occupy 12 acres and will display a diverse collection of shade-loving plants that grow from the uplands to the water's edge. Plant selections will respond to habitat variabilities and create sweeping color-saturated compositions of flowering understory trees, shrubs, and wildflowers.

Specific areas of the Woodland Gardens will showcase only native plants. Other areas will contrast natives with their exotic cousins from Asia and Europe. Boardwalks and bridges fly over wet areas, and small mulch paths enable some visitors to leave the main walks for a more intimate experience. Large stone slabs offer seating along the Pepper Creek shore, and a nearby bird viewing area will provide a more intimate connection with the numerous waterfowl species that inhabit Pepper Creek



▪ GROTTTO, WEB



▪ NATIVE AZALEAS, WEB



▪ BOARDWALK, LONGWOOD GARDENS



▪ WHIMSICAL FEATURE, WINTERTHUR

WOODLAND GARDENS



▪ FERN GLADE, WINTERTHUR



▪ EPHEMERAL WILDFLOWERS, MT CUBA CENTER



▪ ASIAN AZALEAS, WINTERTHUR

PHASING

PHASED IMPLEMENTATION

Since taking possession of the property, the Delaware Botanic Gardens' staff and volunteers have been preparing the woodland portion for garden development by eradicating invasive plants, editing canopy trees, and establishing an accessible path system.

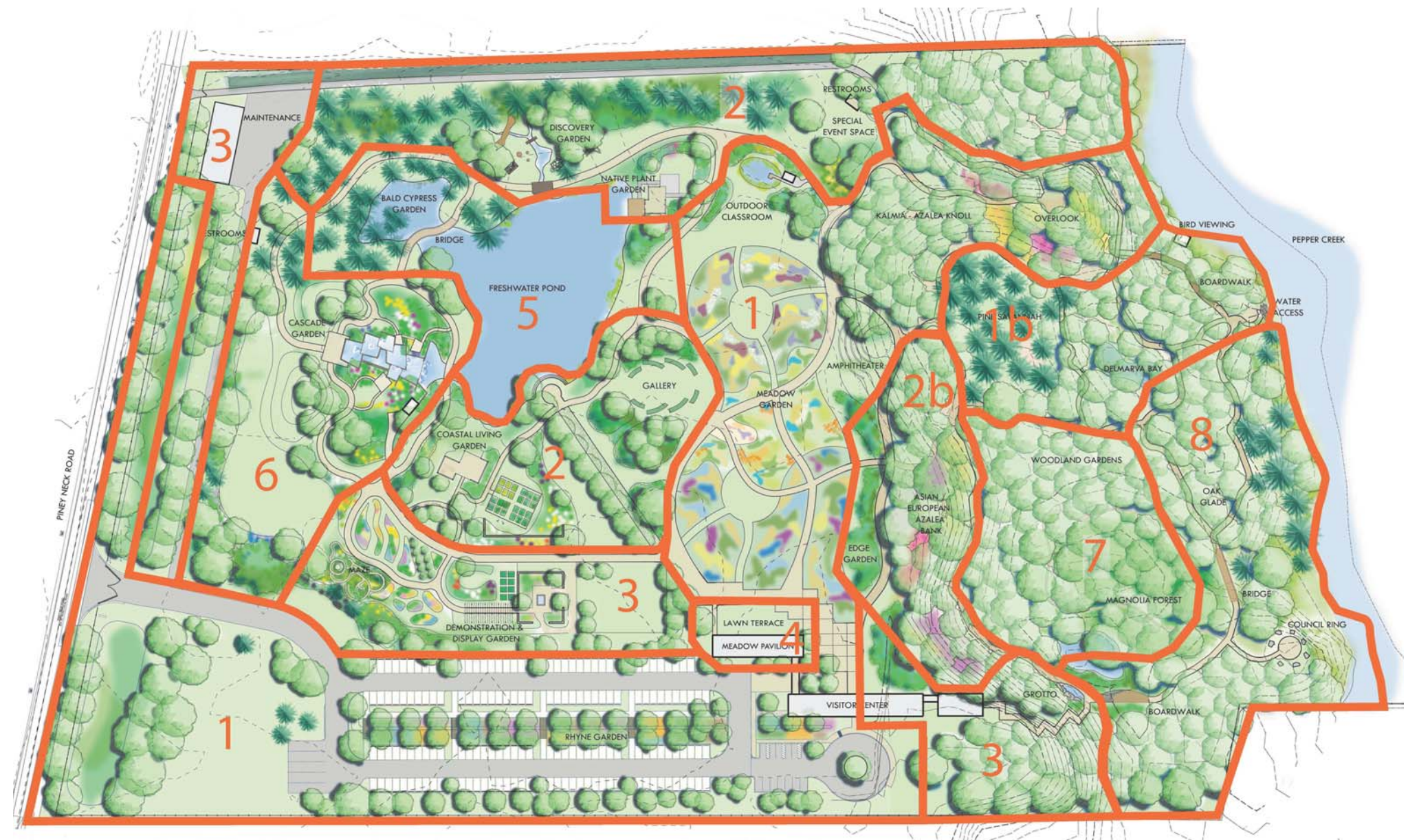
When the gardens are opened to the public, visitors will find parking, a Visitor Center Pavilion, and two major gardens: the Meadow Garden and an early phase of the Woodland Gardens. It is essential that an impactful garden experience greet visitors when the Gardens open. To that end, the Meadow Garden will be fully established on opening day. Parking and visitor services will expand as the Gardens develop over time. A phased implementation strategy is necessary to ensure sustainable growth.

Phase 1: Main Entrance, Parking (partial), Visitor Pavilion, Meadow Garden, Outdoor Classroom, Woodland Gardens (Kalmia-Azalea Knoll, Delmarva Bays.)

Phase 1B: Woodland Gardens (Pine Glade, Shoreline)

Phase 2: Coastal Living Garden, Gallery Garden, Discovery Garden, parking expansion.

Phase 2B: Edge Garden, Woodland Gardens (Asian - European Bank.)



Phase 3: Visitor Center (climate-controlled offices, multi-purpose space & restrooms) Woodland Pavilion, Display & Demonstration Gardens, Maintenance Facility, and Grotto.

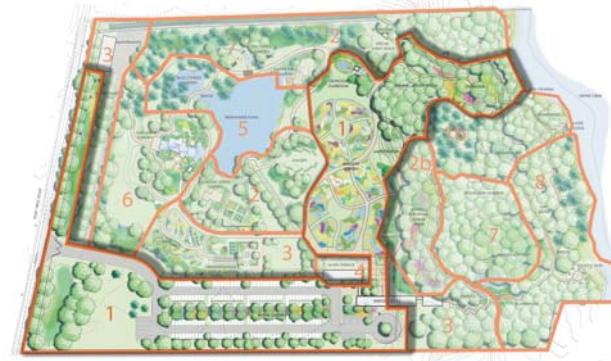
Phase 4: Extended Visitor Center (Meadow Pavilion) climate-controlled event space.

Phase 5: Freshwater Pond and Bald Cypress Garden.

Phase 6: Cascade Garden.

Phase 7: Woodland Gardens (Magnolia Forest.)

Phase 8: Woodland Gardens (Bridge, Oak Glade, Shoreline.)



1



1B



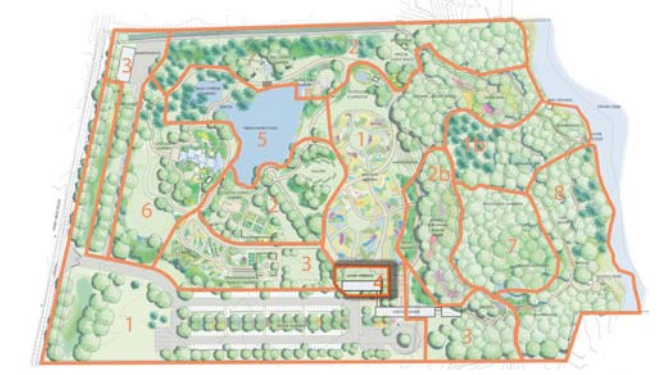
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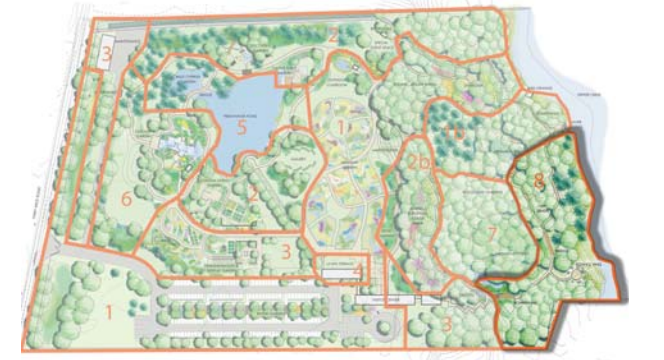
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DELAWARE
BOTANIC
GARDENS
AT PEPPER CREEK

P.O. BOX 1390 / OCEAN VIEW, DE. 19970
www.delawaregardens.org

for more information, contact Raymond J. Sander
raymondsander@delawaregardens.org
202-256-9501



Robinson Anderson Summers, Inc.
Landscape Architects

Piet Oudolf | Broekstraat 17 | tel +31 (0)314 381120
6999 DE Hummelo | fax +31 (0)314 381199
The Netherlands | info@oudolf.com



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