CAMPUS MASTER PLAN

January 2025

BROADMEAD

A Dynamic Lifestyle Community™

Cover Photos: Broadmead (Erroll Hay, Linnette Kanitz,Carolyn Adams)
Inside Cover: Broadmead (Jack Griffith)

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ACKNOWLEDGEMENTS

This planning process is a result of tremendous support and insight from Broadmead residents, staff and leadership. Input and assistance from non-profit, local and state government agencies provided valuable feedback in understanding the restoration opportunities and environmental regulations.

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Photo: Broadmead

EXECUTIVE SUMMARY

SIMPLY BEAUTIFUL

These two words capture the essence of the Broadmead community and embodies the Quaker spirit of this campus plan. This unique community nestled at the foot of the rolling hills of Hunt Valley and overlooking the Western Run is wrapped in the beauty of nature. This campus of trees and clusters of homes enhance the intimate bonds among neighbors and their relationship to nature. Throughout the campus protected walkways encourage an active lifestyle providing immediate access to the surrounding natural areas.

PURPOSE AND PROCESS

This campus planning process follows the completion of the Hillside Homes and the approved Broadmead Community Sustainability Plan, prepared by Steven Winters Associates in 2023. Entering a period of post-construction with a roadmap towards a more sustainable future, this plan explores opportunities to further enhance the resident experience, preserve the beauty of the rural, pastoral landscape and restore and support the ecological function and resilience of this unique landscape at the core of the Broadmead experience.

The campus planning process was initiated in late 2023 and followed a three-phase process: Discover, Collaborate & Ideate, and Refine. Throughout this process residents, staff and leadership explored, discussed and provided critical feedback to develop a set of campus goals, strategies and recommendations.

FORMATION OF A VISION

Through the review of site observations, analysis and stakeholder interviews, common ideas, observations and themes were developed to shape the campus plan. The strengths of the campus include a pedestrian-oriented campus core, the integration of nature and open space, the location within a metropolitan region, comfortable community scale and the people who live and work here. The following conditions and observations are constraints as well as opportunities for campus improvements: steep slopes, floodplain, ecological imbalance, environmental regulations, existing easements, arrival experience into the campus, inaccessible nature, landscape maintenance, and a loop road with limited pedestrian access.

Knitting together stakeholder ideas and concerns, as well as, site constraints and opportunities resulted in a shared vision developed to sustain the legacy of Broadmead. The plan envisions the campus to continue to be a beautiful and dynamic place fostering community bonds within a healthy, sustainable and resilient campus.

... beautiful and dynamic place that fosters community bonds within a healthy, sustainable and resilient campus.

PLANNING GOALS

The following planning goals, aligned with Quaker community values, offers a framework to guide recommendations and design:

Enhance and Sustain a Sense of Community
(Community)

At the heart of Broadmead are the people and the social bonds that join them together. Site designs should enhance opportunities to bring people together to play, work or socialize.

Cherish and Improve the Connection to Nature
(Peace and Stewardship)

Nature is a part of Broadmead's unique identity. Investments made to the campus should continue to connect people with the beauty of the landscape, both within the campus core and within the surrounding ecosystems.

Expand Safe Access for All Residents
(Equality)

The design of the interior circulation network is well intended to provide equal access for all. However, site investments

should prioritize expanding equal and safe access to shared community spaces within the clusters throughout the community, and to the natural areas surrounding the community.

Transition the Landscape to a Sustainable Future *(Stewardship)*

As the Broadmead campus faces climate change, landscape investments should be beautiful, restore, support and protect ecological functions. Strategies include native plant biodiversity, habitat protection, enhanced water quality and expanded tree canopy. Supporting the ecological function of the landscape will allow the Broadmead campus to be more naturally resilient and able to adapt to future impacts more readily.

Provide Work that Fits into a Balanced Financial Plan
(Financial Prudence and Responsibility)

Recommendations and investments should be thoughtfully evaluated to reconcile their benefits toward community well-being and campus sustainability.

GUIDELINES

In addition to the strategies and recommendations summarized on the following page, this campus plan includes a set of sustainable site design and management best practices and site design guidelines. The sustainable site design and management best practices offers additional operations and management strategies to improve the health and resilience of the campus. The site design guidelines review existing site materials to provide recommendations to encourage a palette of materials that define space, foster a sense of identity and cultivate a sense of place.

SUMMARY OF STRATEGIES AND RECOMMENDATIONS

Illustrative Campus Plan

BROADMEAD
A Dynamic Lifestyle Community™

The following summary of key strategies and recommendations align with the vision and goals of this master plan, highlighting their interconnected contributions to enhancing both the quality of life and the environment. Plans and diagrams within this Campus Master Plan are illustrative and require additional design development and engineering.

ENHANCE AND SUSTAIN A SENSE OF COMMUNITY

1. Revitalize and Expand Seating Areas *(multiple locations)* 1
2. Enhance the Holly House 2
3. Enhance and Activate the Central Gathering Space 3
4. Maintain and Improve Existing Campus Amenities Near the Western Run:
    - A. Maintain and Upgrade the Dog Park 4A
    - B. Enhance the Community Garden 4B
    - C. Improve the Sense of Enclosure Around Springhouse and Pool Landscape 4C
    - D. Preserve and Program the Barn 4D
5. Enhance Garden Homes Courtyard and Open Space 5
6. Introduce Site Art and Sculpture to Celebrate Nature and Community *(multiple locations)* 6

CHERISH AND IMPROVE THE CONNECTION TO NATURE

1. Improve Connection to the Western Run:
    - A. Construct a Boardwalk 1A
    - B. Improve the Paw-Paw Path 1B
2. Improve Connection to the Upland Forest:
    - A. Enhance Trail Access and to Activate the Summer House 2A
    - B. Develop Accessible Trails from Provenza Property 2B
3. Implement a Comprehensive Trail Maintenance Plan *(multiple locations)* 3
4. Transform the Campus into an Arboretum and Bird Sanctuary *(campus wide)* 4
5. Develop a Branded Signage Plan to Educate and Promote Stewardship *(campus wide)* 5

EXPAND SAFE ACCESS FOR ALL RESIDENTS

1. Improve Pedestrian Access within the Campus Core and to Site Amenities:
    - A. Extend Covered Walkway to Employee Parking Lot 1A
    - B. Enhance the Gravel Pathway Adjacent to Springhouse and Pool 1B
    - C. Extend Path to Art-Oriented Meadow 1C
    - D. Extend Sidewalks to York Road 1D
2. Enhance Intersection Safety with Visible Crosswalks **and Traffic Calming** (multiple locations) 2
3. Develop Pedestrian-Priority (Yield) Streets:
    - A. Copper Beech Lane 3A
    - B. Fire Lane 3B
4. Complete the Copper Beech Lane Perimeter Sidewalk Loop 4
5. Balance Parking and Service Needs 5

TRANSITION THE LANDSCAPE TO A SUSTAINABLE FUTURE

1. Cultivate Strategic Environmental Partnerships *(for multiple programs)* 1
2. Support and Expand Native Pollinator Habitat *(multiple locations)* 2
3. Expand Meadow and/or Limited Mow Areas *(multiple locations)* 3
4. Implement a Comprehensive Tree Planting Strategy on Campus:
    - A. Residential Areas *(multiple locations)* 4A
    - B. Successional Buffer Planting 4B
5. Develop a Holistic Forest Habitat Maintenance Plan for the Upland Forest 5
6. Expand and Restore Forest Habitat Along the Western Run:
    - A. Establish a Demonstration Habitat Management Area 6A
    - B. Coordinate Tree Planting and Invasive Plant Removal *(multiple locations)* 6B
    - C. Partner with SHA for Invasive Plant Removal and Wetland Mitigation 6C
    - D. Introduce a Landscape Buffer to Screen Maintenance Yard 6D
7. Develop an Integrated Landscape and Stormwater Management Strategy:
    - A. Introduce Rain Gardens to Garden Homes Courtyards 7A
    - B. Integrate Stormwater Management Best Practices with Site Improvements 7B
    - C. Enhance Planting of Existing Bioretention Planters 7C

Photo: HCM

PLANNING PROCESS

The campus planning process was initiated in late 2023 and followed a three-phase process: Discover, Collaborate & Ideate, and Refine.

1. DISCOVER PHASE

This phase formulated a foundational understanding of the campus environment through examining existing data, stakeholder input, and physical observation. The following were key touchpoints of engagement:

- **Project Introduction** (November 27, 2023): Launch of the planning project.
- **Campus Site Walk** (February 20, 2024): On-site exploration to observe campus conditions.
- **Stakeholder Interviews** (February 20 and 22, 2024): Discussions with key stakeholders to gather feedback and refine project goals.

2. COLLABORATE & IDEATE

This phase discussed and refined findings from the Discover phase, developed conceptual plans, and gathered further stakeholder feedback.

- **Existing Conditions Analysis Review Meeting** (April 22, 2024): Presentation and discussion of the current state of the campus.
- **Campus Plan Concepts Review Meeting** (May 24, 2024): Review of initial concept plans addressing landscape improvements and the Provenza site.
- **Campus Plan Priority Questionnaire** (June 4, 2024)**:** Online questionnaire to prioritize campus investments.
- **Western Run Site Walk with Maryland Department of Environment and Department of Transportation** (July 10, 2024): Site walk to evaluate environmental conditions.
- **Sculpture Committee Work Session** (August 5, 2024): Session to discuss the integration of art and sculpture on campus.
- **Western Run Site Walk with Gunpowder Valley Conservancy** (August 19, 2024): Environmental assessment with a conservation group.

3. REFINE

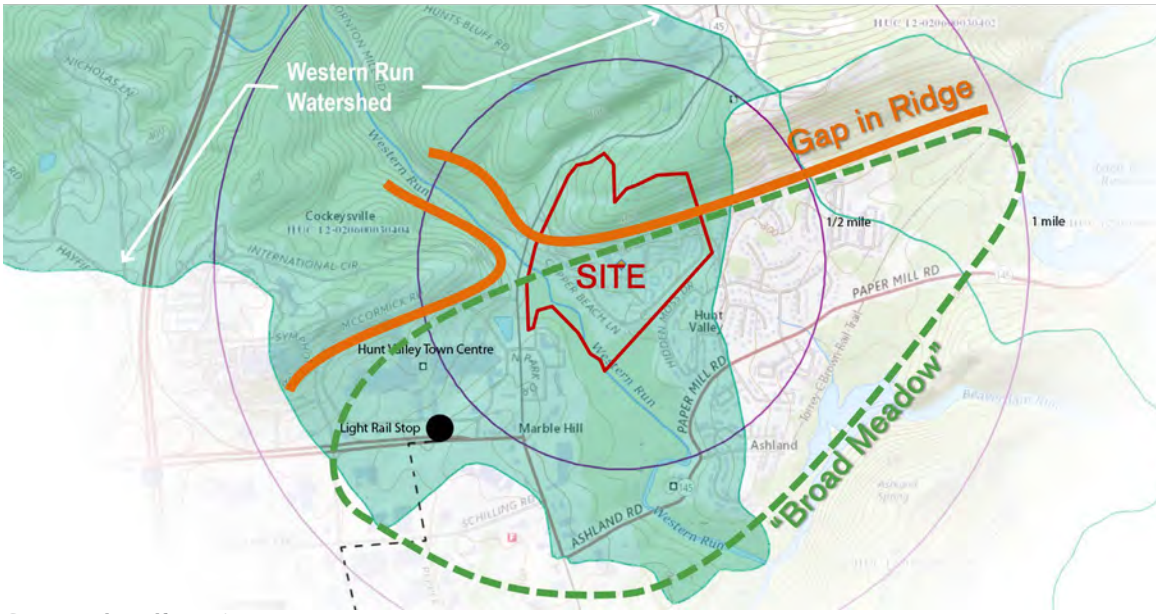
This phase finalized the campus plan by incorporating stakeholder feedback and refining the proposed design and sustainability strategies.

- **Preferred Campus Plan Review** (October 1, 2024): Presentation to review updated plannning concepts.
- **Final Campus Plan Review** (TBD)

Photo: Broadmead (Linnette Kanitz)

EXISTING CONDITIONS

This section provides a detailed assessment of the existing site conditions and organization of Broadmead's campus. The analysis synthesizes stakeholder feedback with data from Baltimore County GIS (geographic information system), approved site plans, property records, and internal documents such as tree inventories and management plans. The analysis aligns with the objectives and strategies specified in the *Baltimore County Watershed Action Plan* (2018) and the *Broadmead Community Sustainability Plan* (2023), aiming to improve ecological functions and create a more sustainable campus.

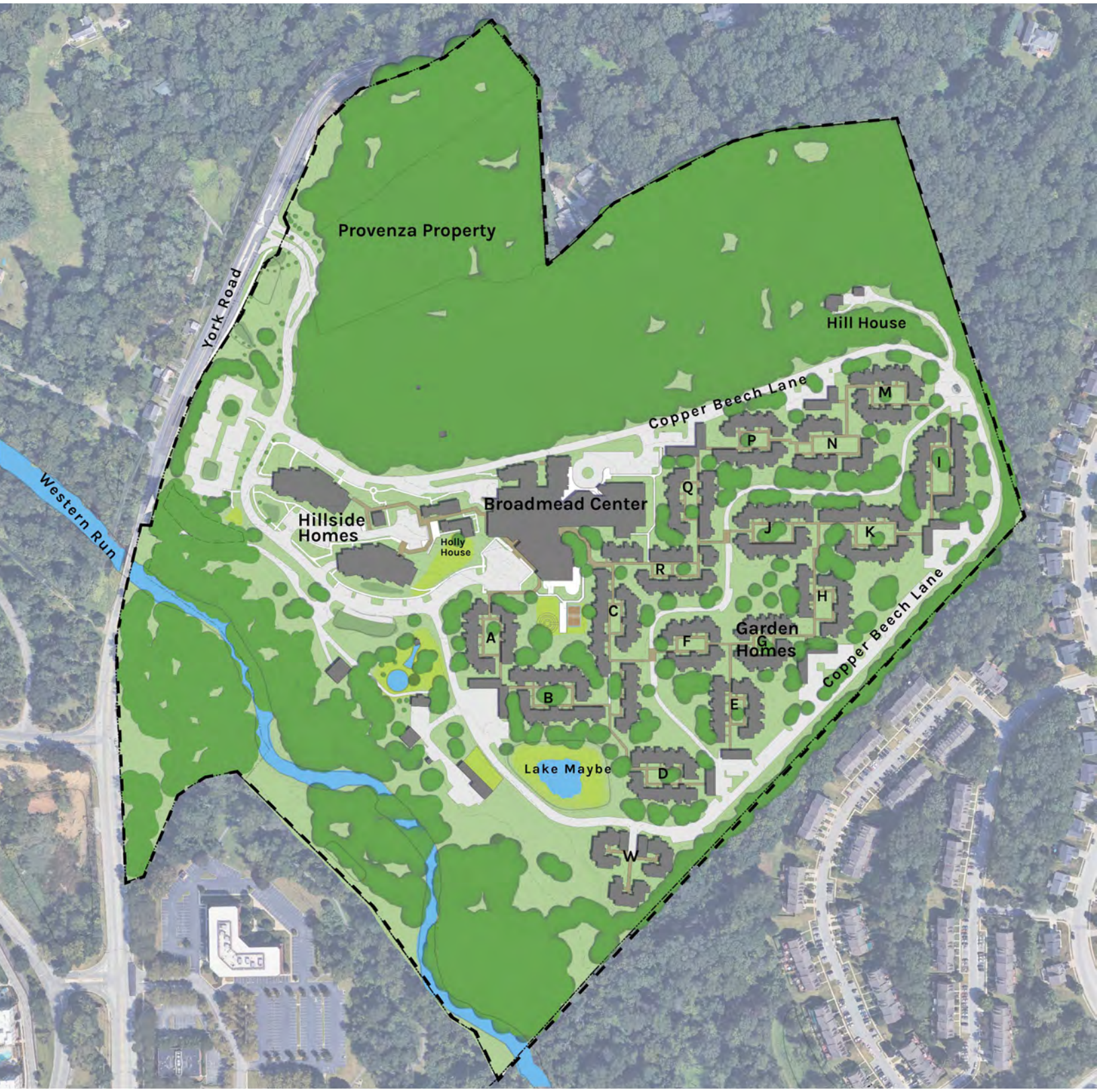


Context and Landform Diagram

CONTEXT & LANDFORM

Broadmead is situated in a distinctive location that combines a serene, pastoral environment with convenient access to metropolitan amenities. Covering 90.8 acres, the campus is positioned at the northern edge of Baltimore County's urban-rural divide. This edge restricts the extension of water and sewer services north of Broadmead, thereby preserving the rural character of the area. To the south, the campus is located less than half a mile from the amenities and conveniences available along York Road and at the Hunt Valley Town Center. Additionally, the I-83 expressway and light rail station, just over a mile away, provide connectivity to major healthcare centers, cultural institutions, and the international airport within the metropolitan region.

The local agricultural heritage and the surrounding natural landscape inspired the Broadmead campus. Broadmead developed on an existing "broad meadow," framed by the ascending Piedmont hills to the north. The western edge of Broadmead is shaped by the Western Run cutting through a "gap" in the hill before forming a flat riparian valley along the southern edge of the campus. The upland forest and the riparian valley are distinct ecological systems shaping the community and the historic Holly House.



Existing Campus

THE EXISTING CAMPUS

The context that defines the community includes the following: York Road to the west, single family house lots to the north and northeast, townhomes to the east and a suburban office property to the south. The recent acquisition of the Provenza property expanded the campus further north and uphill along York Road.

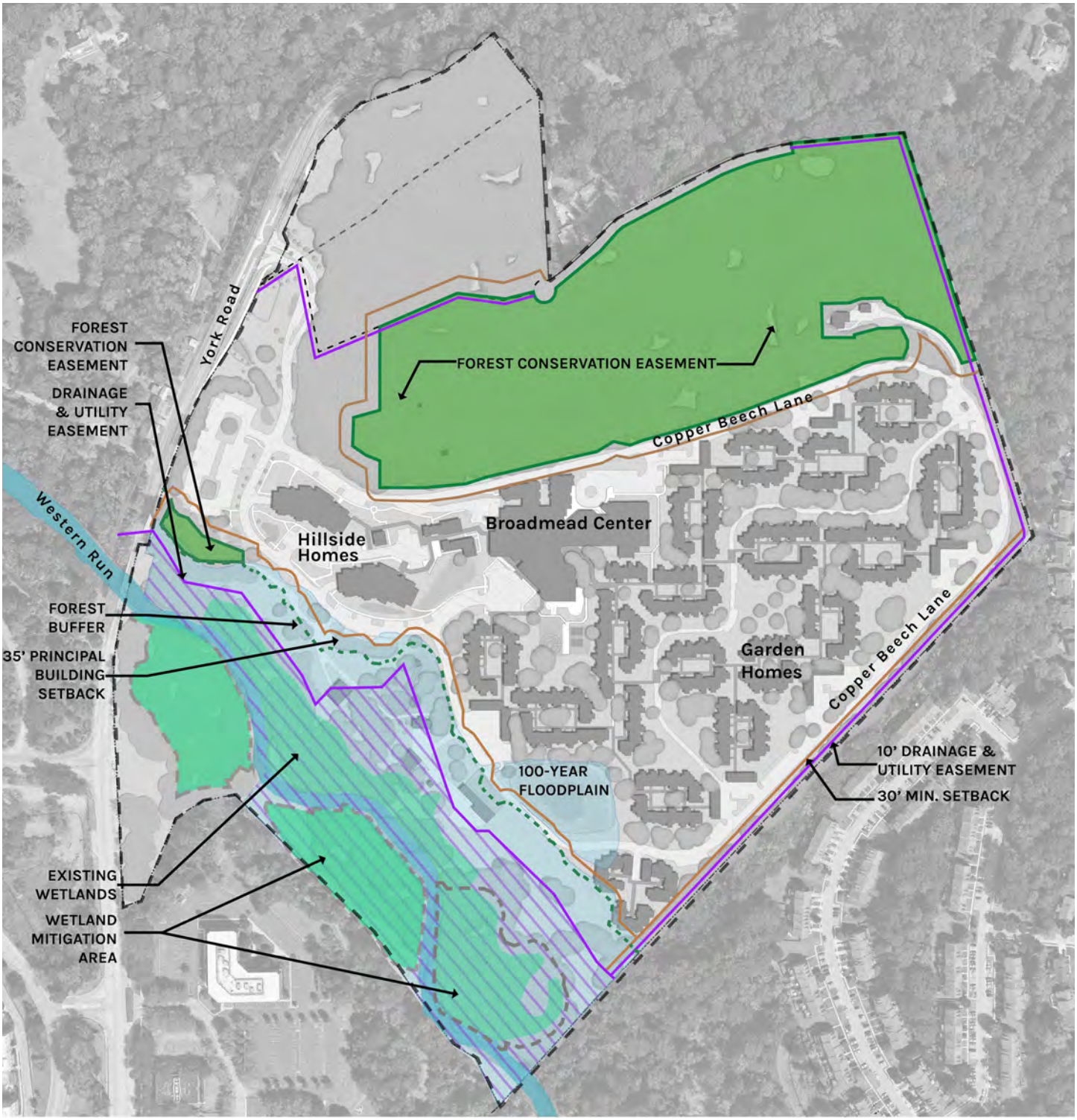
The campus was built out in distinct phases. The eastern section of the campus consists of the Garden Homes, low-scale cottage houses organized around courtyards and connected by covered walks. The Broadmead Center, at the center of the campus, is the hub of community activity, providing dining, community spaces, health, and fitness spaces as well as office and support spaces. At the time of this planning study, the Broadmead Center was undergoing renovation and upgrades. The Hillside Homes, west of the Broadmead Center, are the most recent newly constructed buildings. These apartment buildings are three story apartments over basement level parking.

North of Copper Beech Lane the campus predominantly consists of upland forest, crisscrossed by hiking trails. The area contains a few ruins of the previous farm, as well as, the remains of the demolished Provenza home and driveway. The Summer House, located above and north of the Broadmead Center, is a covered open-air pavilion surrounded by the forest and access trail. The Hill House, the former presidents house, is a detached house perched on the hill overlooking the campus. Today the house provides two unique housing units set within the forest and accessed by a steep driveway.

South of Copper Beech Lane the campus is largely in the floodplain and consists of open space, the spring house and pond landscape, forest, and non-residential structures. The non-residential structures include the barn and silo, and single-story maintenance buildings. The maintenance buildings enclose an asphalt site where trucks and supplies are stored.

View of Garden Homes Covered Walkway

< Existing Campus Map



Environmental Features and Easements

View of Barn from Floodplain

ENVIRONMENTAL FEATURES AND EASEMENTS

The northern, uphill area of the campus is predominated wooded. Most of this area is contained within a forest conservation easement with the exception of Provenza property. The forest conservation easement and topography separate the Provenza site from the center of the existing residential campus.

The southern portion of the campus is defined by the Western Run, a tributary flowing southeast towards Loch Raven reservoir, which is a critical drinking water reservoir for the region. Since much of this watershed comes from rural areas, the stream valley is in good health compared to other more urbanized watersheds further south.

The riparian area contained within overlapping environmental protection boundaries includes a forest buffer, floodplain, wetland mitigation areas and a forest conservation easement.

The extent of forest conservation easements, forest buffers, floodplains and wetlands totals approximately 37.85 acres. The remaining land area was developed or is developable.

View of Loch Raven, Source: Lets Run.com

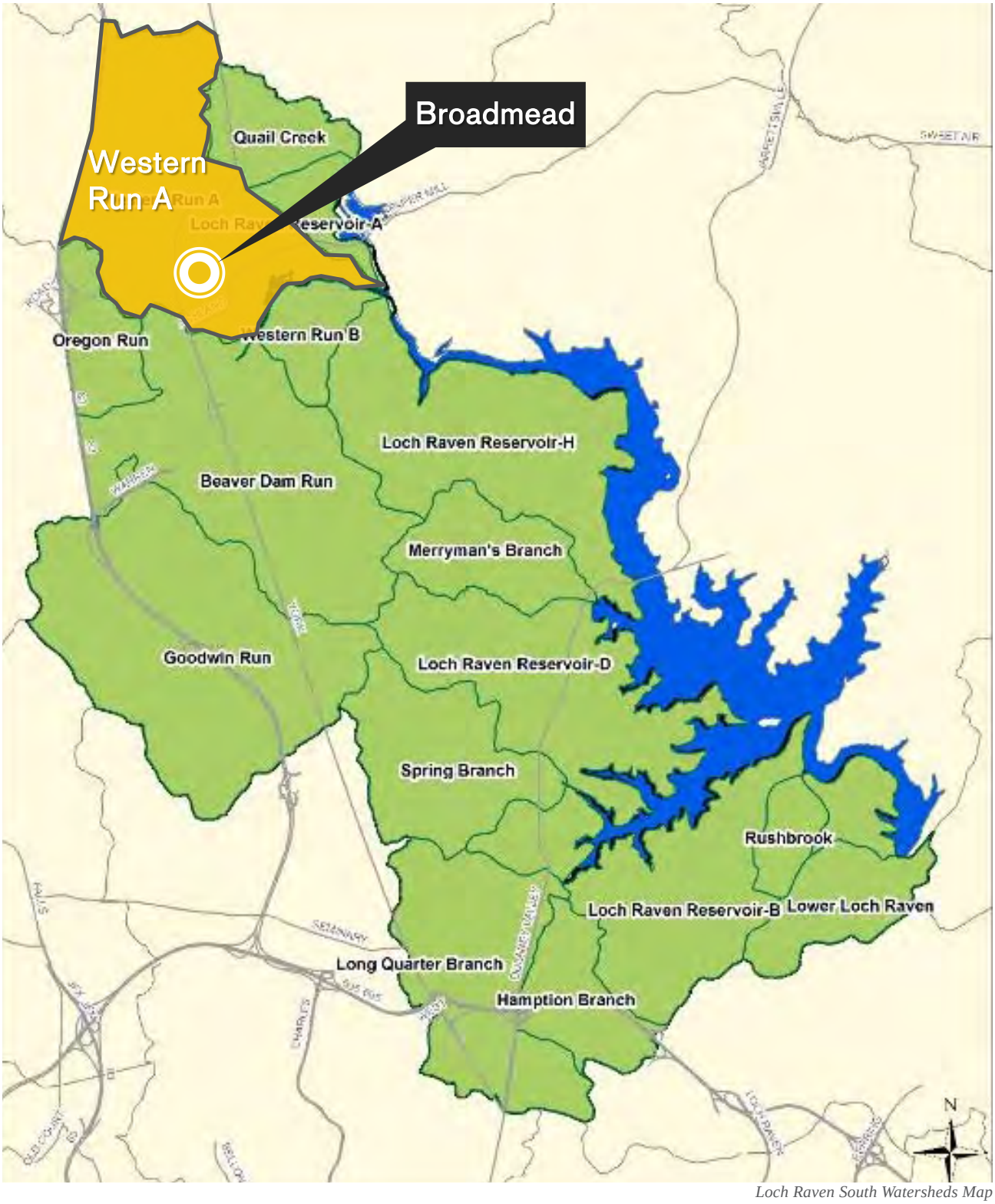
BALTIMORE COUNTY SMALL WATERSHED ACTION PLAN

The Baltimore County Small Watershed Action Plan (SWAP), dated 2018, provides strategies for the restoration of the Loch Raven South watershed. While the plan is intended to assist the Baltimore County Department of Environmental Protection and Sustainability (EPS) continue restoration efforts, the plan outlines opportunities for landowners to assist in restoration work. The Western Run A is classified as a High Priority watershed indicating a greater pollution and restoration potential than other watersheds leading to Loch Raven.

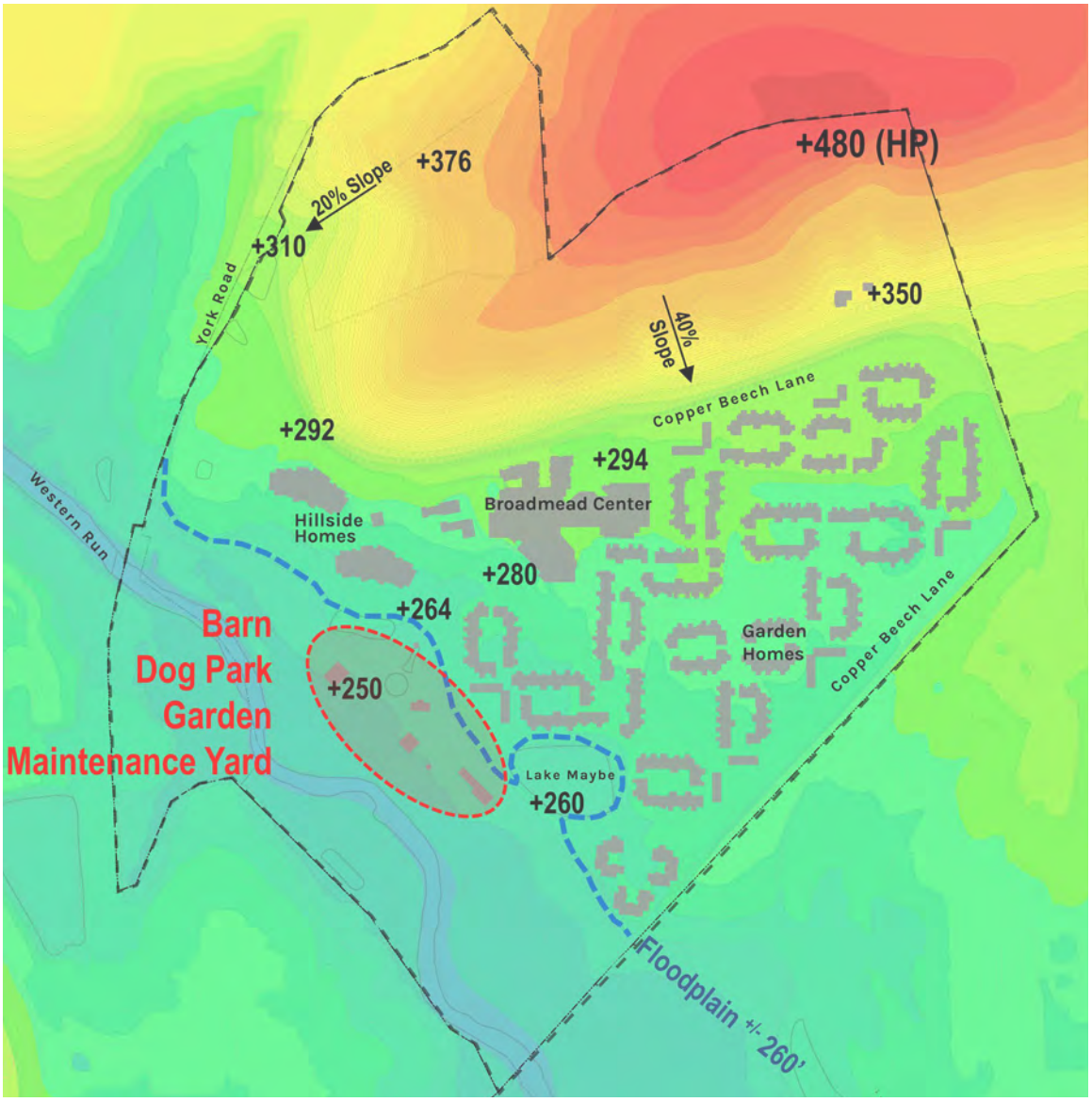
The Baltimore County Small Watershed Action Plan (Dec 2018) offers three citizen-based strategies for implementation:

- **Reforestation (process of renewing forest cover by planting trees on land that was previously forested but has been converted to other uses),**
- **Downspout Disconnect (process of disconnecting downspouts from stormwater drain to be collected in cistern or infiltrated in a rain garden),**
- **Bayscaping (landscaping strategy to replace grass with plants native to the Chesapeake Bay watershed),**

Other strategies may include buffer improvements, trash management and fertilizer reduction.



Loch Raven South Watersheds Map
Source: Baltimore County Department of Environmental Protection and Sutainability, 2018



Topography Diagram

TOPOGRAPHY

The campus is defined by the local topography. The developed portion of the campus on the wide meadow is relatively flat (< 5% slope) between the elevation of 306 feet and 260 feet. The upland portion of the campus rises quickly with steep slopes approximately (20-40%). The low and flat riparian area of the Western Run and associated floodplain sits below elevation 260 feet. Many structures and site features are located within the floodplain including the barn, silo, dog park, community garden and maintenance yard. These features are prone to reccurring flooding.

EXAMPLES OF STORMWATER FACILITIES ON CAMPUS:

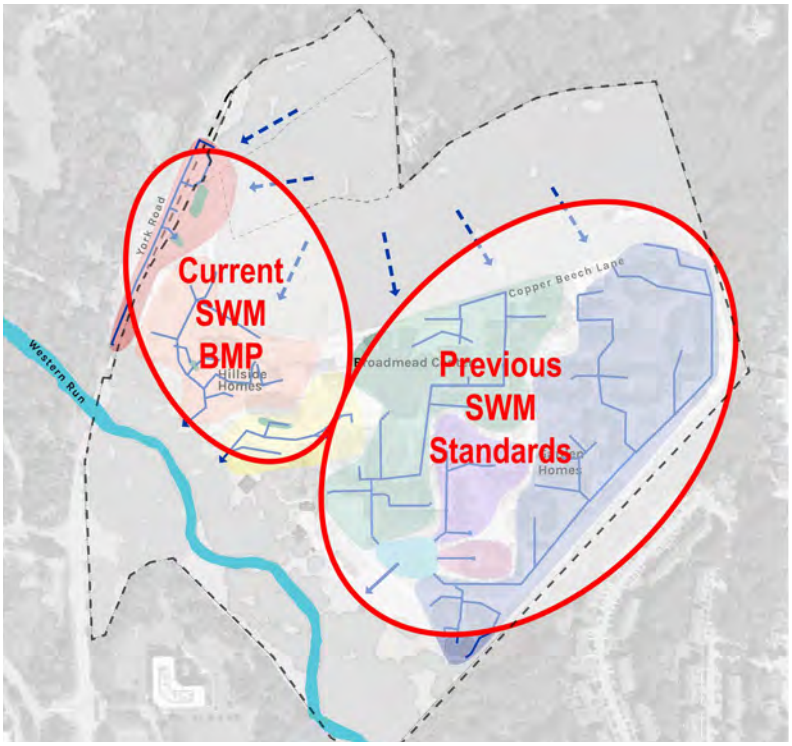
Previous Stormwater Management Standards

Detention (Lake Maybe)

Conveyance (Garden Homes Courtyard)

Current Stormwater Management Best Management Practices (BMP)

Infiltration (Bioretention adjacent Hillside Homes)

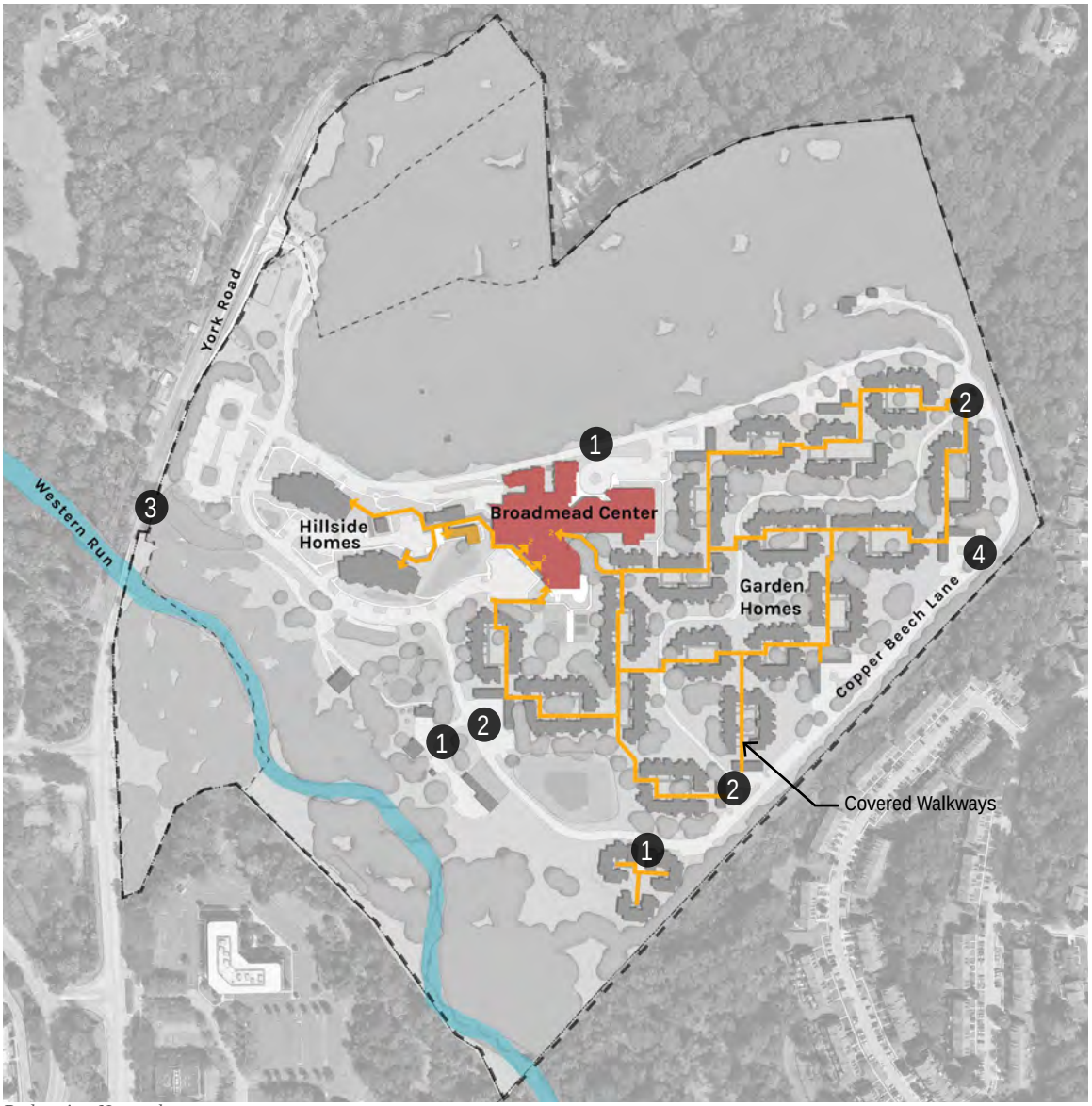


SWM Diagram

STORMWATER MANAGEMENT (SWM)

Like the different generations of homes, the campus currently has two different stormwater management systems. The older Garden Homes area of campus relies on a system of conveyance and retention control to manage and treat storm water from the built area. Existing underground storm drains collect runoff from these areas and outfall into a large SWM detention facility (Lake Maybe), which eventually releases runoff into the Western Run.

With the recent construction of the Hillside Homes and parking improvements, the campus installed stormwater management systems focused on treating runoff from impervious surfaces within localized (micro watersheds) areas. These systems mimic the natural process of hydrology, slowing down and treating water to remove sediment and other impurities before it outfalls into local waterways. While managing runoff from rainfall events, the systems also provide ground water recharge by infiltrating a portion of the treated water into the ground. Campus improvements that expand impervious surfaces will need to comply with these enhanced stormwater management standards to comply with Maryland stormwater regulations (2007/2010).



Pedestrian Network

PEDESTRIAN SYSTEM

The covered walk is a distinctive campus feature, uniquely Broadmead. This protective canopy allows the community to walk outdoors between the landscape, courtyards, homes and the Broadmead Center without getting drenched from rain or snow. Additionally, the canopy provides an architectural frame to the well-scaled Garden Homes courtyards. This network of covered sidewalks extends between the Broadmead Center and the new Hillside Homes.

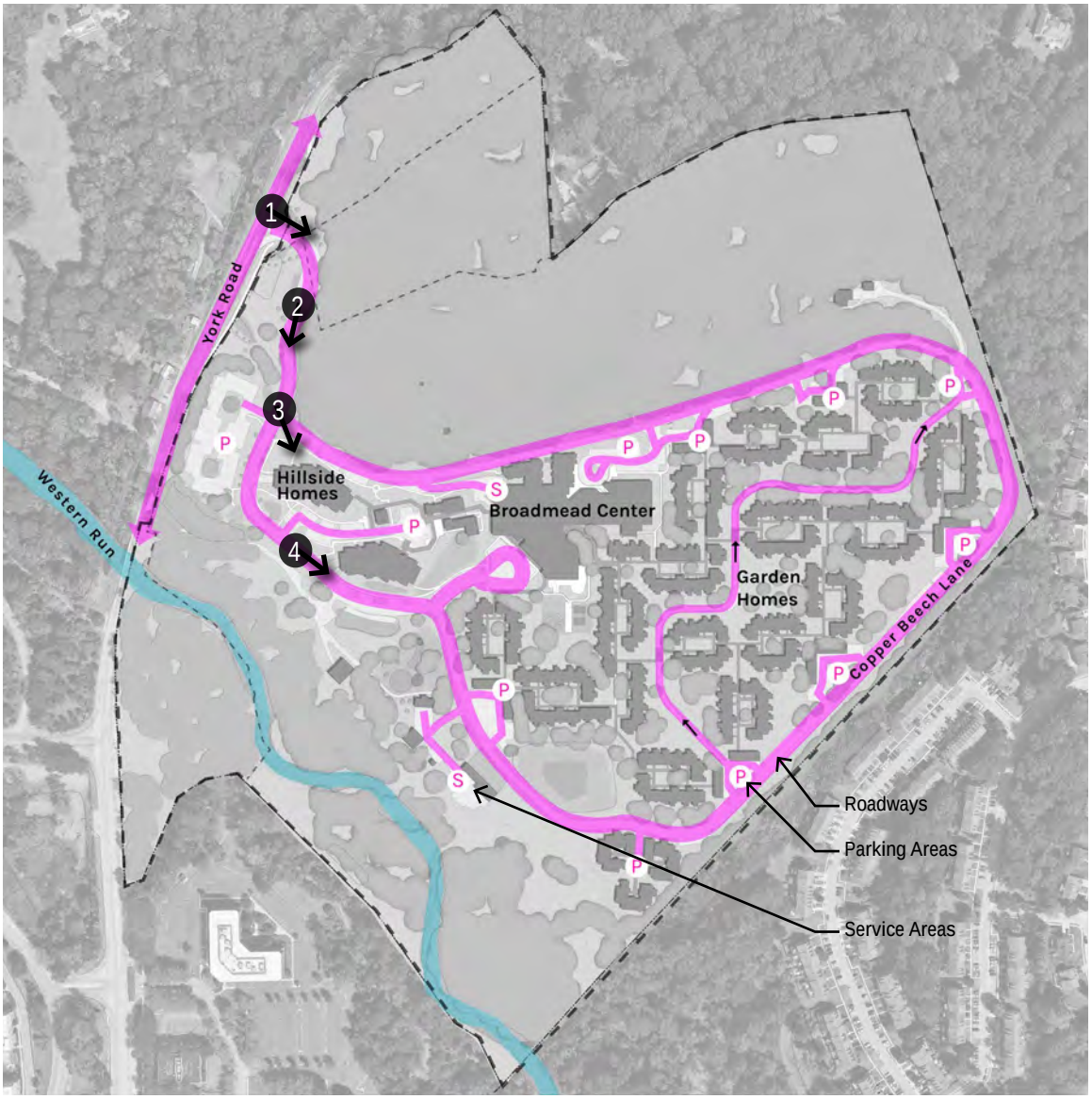
1 *View of Trailhead without Sidewalk Connection*

2 *View of Zebra Stripe Painted Zone behind Parked Cars*

4 *View of Copper Beech Lane without Sidewalks*

In addition to the covered walkways, the campus includes uncovered, paved sidewalks along Copper Beech Lane and parking areas, as well as, natural surface, unpaved trails in the Upland Forest area and along the lower riperian areas beside the Western Run. Overall, the pedestrian network supports the daily needs of residents, but contains a few gaps including the following:

1. Sidewalks do not connect with soft surface walking trails, the dog park, the community garden and Cluster W.
2. Yellow zebra stripe painted zone behind parked cars indictes edge of garage roof, but also implies a pedestrian crosswalk, particularly in locations where pedestrians need to move through a parking lot to access sidewalk connections.
3. There are no sidewalk connections between the campus and York Road. The recently added sidewalk on York Road does not extend beyond the edge of Broadmead's frontage. Pedestrians cannot safely walk south on York Road over the Western Run bridge to access shopping and services.
4. The eastern half of Copper Beech Lane does not have a continuous sidewalk. Pedestrians who want to access amenities from this loop walk in the roadway and behind parked cars where sidewalks are not available. This conflict was a common concern from stakeholders and often observed during site visits.



Vehicular Network

VEHICULAR CIRCULATION

Copper Beech Lane provides a two-way loop around the residential community. Cluster W and the Hill House are the only residences located outside of this loop. Copper Beech Lane consists of segments with and without angled or perpendicular parking. The road alignment is often contained between structures, steep slopes and easements. For example, north of the Broadmead Center this roadway is approximately 20 feet wide. The foot of a steep slope is located approximately 2 feet north of the roadway and the Broadmead Center located approximately 3 to 4 feet south of roadway. The lack of expansion around the roadway limits opportunities for additional parking or sidewalks.

1 *Entrance at York Road*

2 *View towards Hillside Homes*

3 *Infrastructure limitations at Copper Beech Lane intersection*

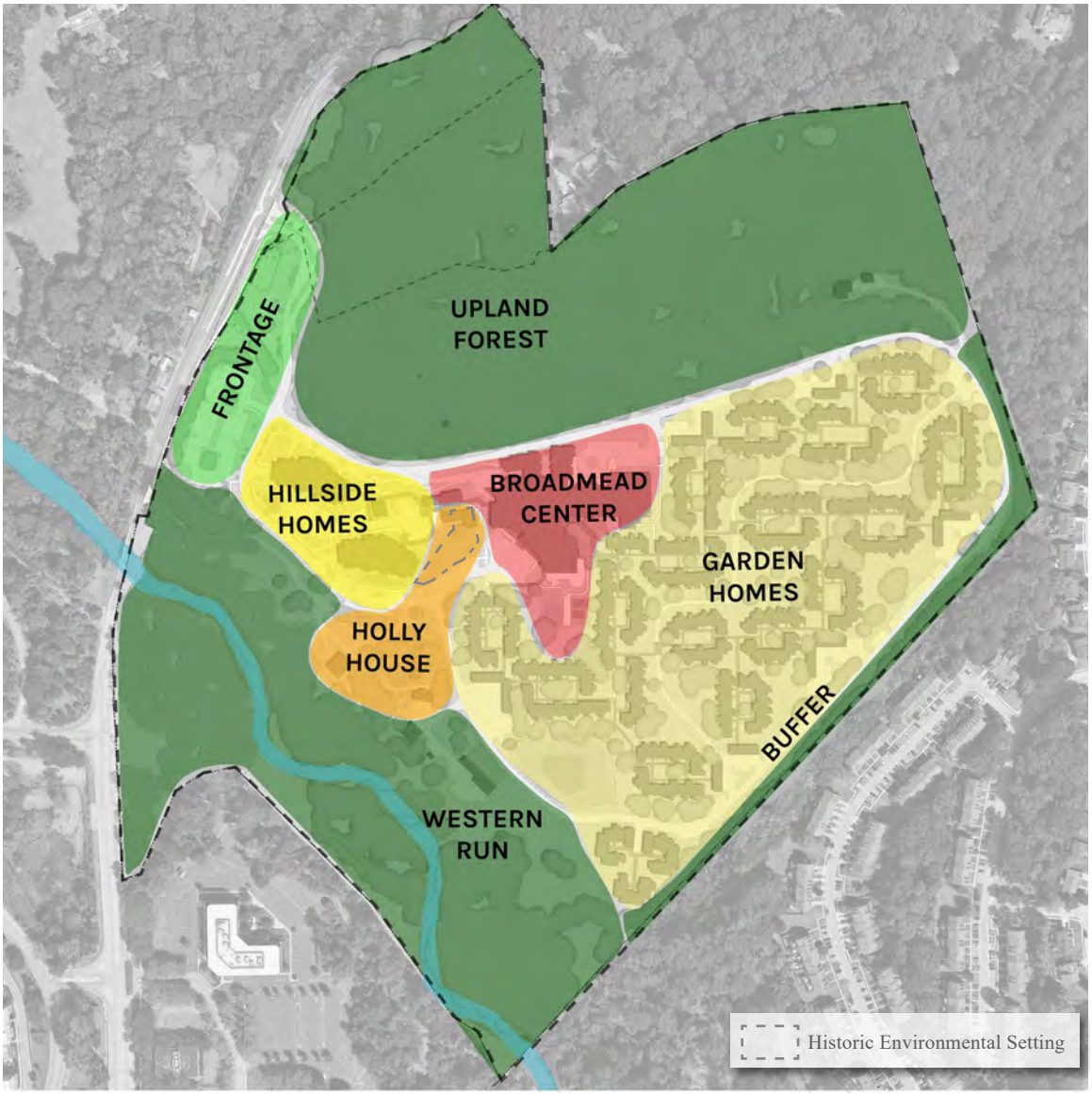
4 *Exposed garages and young landscape*

A narrow one-way fire lane provides shuttle and delivery access within the Garden Homes neighborhood. Pedestrians share space on this low-volume roadway. Two covered crosswalks over the fire lane provide a sheltered space to wait for the shuttle bus as well as allows residents to safely cross this roadway.

Parking is provided throughout the campus in a variety of arrangements including Garden Homes parking clusters, Hillside Homes garages, on-street spaces along Copper Beech Lane, a large employee parking lot and smaller visitor lots at the entrances of the Broadmead Center. In total there are 587 spaces. This quantity satisfies Baltimore County zoning requirements (524 required spaces) but does not necessarily meet the needs of the campus community. A common concern was employee and visitor parking within the residential area of the community creating a shortage of convenient parking and unnecessary traffic congestion. Thirty additional parking spaces would help ameliorate the perceived parking shortage. However, there is limited space within the developed area of the campus to expand parking.

The campus has a single access point to York Road. This intersection and access drive were recently relocated to provide a controlled access point with better acceleration and deceleration distances onto and from York Road. It is highly unlikely an additional access point to York Road is feasible.

At the time of this plan, the surrounding landscape that frames the arrival sequence from York Road to the southern entrance to the Broadmead Center is relatively young and undeveloped. The lack of a mature landscape exposes blank building walls, garage openings, surface parking and other infrastructure structures. As discussed with stakeholders, public art, signage, views, and landscape features in coordination with each other can help promote a stronger sense of arrival experience.



Campus Districts

CAMPUS DISTRICTS

The developed portion of Broadmead consists of four distinct developed areas defined by the architectural scale, character, and associated landscape. The **Garden Homes** district consists of low scale modernist residential cottages organized around intimate courtyards.

The **Hillside Homes** district, the most recent addition, consists of four- story apartment buildings terraced along the slope. Unlike the Garden Homes, these buildings include indoor community gathering spaces rather than shared courtyards.

Hillside Homes

Broadmead Center`

Garden Homes`

Holly House

At the center of the campus is the large two-story **Broadmead Center**. This building, renovated over the years, maintains a similar character to the Garden Homes despite its larger scale.

Covered walks from the Garden Homes neighborhood tie into the Broadmead Center and provide direct, protected connections throughout the Garden Homes district.

The landscape surrounding the Broadmead Center consists of foundation plants that accentuate the sense of arrival to both the north and south drop-off areas. A central public gathering space consisting of a plaza, raised planters, a formal rose garden, pickleball courts and seating areas extends from the lower level dining room of the Broadmead Center.

The historic **Holly House**, an example of a 19th century farmhouse, sits adjacent to the Broadmead Center. The front porch and side patio of the Holly House overlooks a view corridor downhill towards the spring house and pond, which is set within a manicured park-like environment. An historic environmental setting, per Broadmead Amended Special Exception Plan, 2015, overlays the immediate area around the Holly House including the slope between the house and the access drive to the Broadmead Center. The pond and springhouse are located outside of this environmental setting, but contribute to the historic experience.

Eastern Buffer: Berm along Copper Beech Road

Western Run Valley: Seating Area

Western Run: Tributary flowing from Lake Maybe

These four districts are enclosed by natural areas: to the north, the upland forest, to the south, the Western Run, to the east, a narrow conifer tree buffer and along York Road a young landscape which currently includes an open lawn with trees and biorentention planting areas.

The **eastern tree buffer** consists of a rocky berm planted with conifer trees. These evergreen trees provide a dense visual buffer to the adjacent residents, but the trees are reaching a mature age and will need replacement in the coming years.

The **Western Run** wooded riparian valley contains pockets of open gaps in the tree canopy and open lawns at its edges. Invasive plant species, such as Japanese Knotweed, Lesser Celandine, Japanese Stiltgrass and others, out-compete and threaten the native plant community, such as the Paw-Paw trees and native groundcovers and perennials. Reoccurring floods inundate this area. Silt and sediment have accumulated along the banks where structures obstruct the flow of water, such as on the pedestrian bridge. Agricultural activity, maintenance facilities and the former access road to York Road have disturbed the floodplain. The Maryland State Highway Administration constructed a series of wetlands along the stream. These wetland areas, like the rest of this area suffers from invasive plant species, deer grazing and the intensive flooding. Trails, both paved surfaces as well as natural surfaces, provide access to this area. The ground and trails along the Western Run are often wet and muddy.

Upland Forest: Summer House

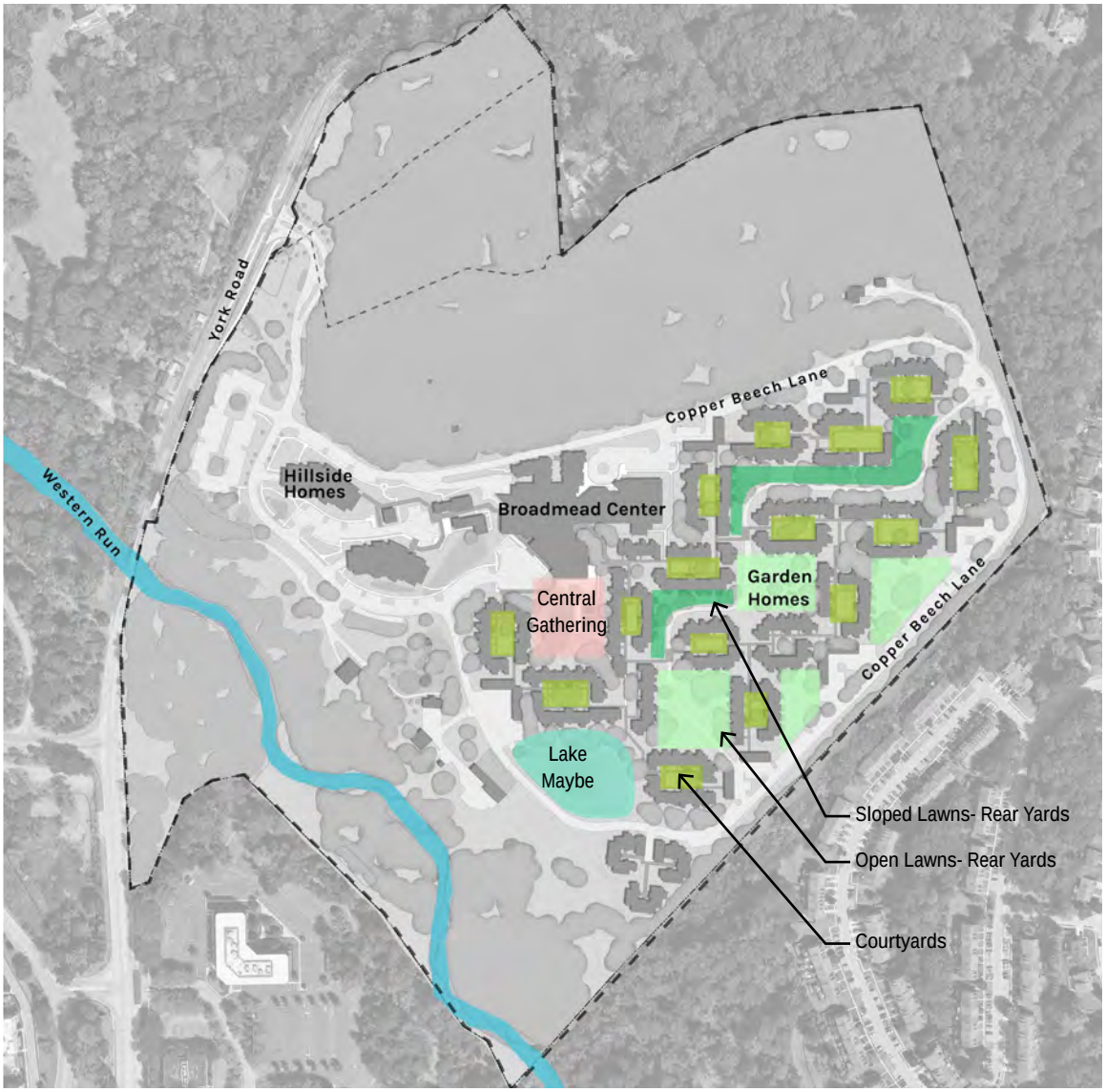
Upland Forest: Forest Conservation Sign

York Road Frontage: Stormwater Management and Sidewalks

York Road Frontage: Copper Beech Tree

The **upland forest** is an expansive forest stand along the northern edge of the campus. Grazing deer denude the understory vegetation. Additionally the lack of understory vegetation contributes to erosion, as well as, allowing invasive species to flourish. Multiple trails crisscross the forest with signs of erosion on the trails.

The **York Road frontage** is a relatively new landscape, transformed by the new access road. The area is expressed as a large open lawn. A stone veneer site wall retains the foot of the hill along the entrance drive. This wall defines the back edge of the York Road frontage. The forest above the wall abruptly ends without transition to lower scale plantings. This landscape preserves the two original Copper Beech trees, with one of the trees located in the employee parking lot. Ornamental planting beds and bioretention facilities dot edge of the roads and open lawn.



GARDEN HOMES LANDSCAPE TYPOLOGIES

The Garden Homes district consists of a variety of shared landscape typologies, including the courtyards, rear yards, Lake Maybe and the community space at Broadmead Center.

The courtyards are well-defined rectangular lawn spaces enclosed by covered walkways and homes. The courtyard is the heart of each residential cluster. Residents have introduced a variety of furniture, plantings, and decorations to make the space reflect the tastes of those who live around the courtyard. Many seating arrangements are placed on open lawn or added mulch

beds, which limits universal access to these community assets. Each courtyard lawn have surface drains to collect runoff water.

Open lawns with shade trees are a common landscape typology between and around the residential clusters. Some of these lawn spaces are located on embankments, such as along the fire lane, while some lawns are open and flat. These rear yards are scenic, unprogrammed spaces with limited access to pedestrians.

Lake Maybe, a detention pond, collects stormwater from the Garden Homes courtyards. The detention pond is aerated by a fountain and enclosed by a three-rail wooden fence with metal mesh to restrict access to the water. The edge of the pond consists of tall grasses and cattails adapted to the wet conditions. Shade trees located around the basin enhance this bucolic setting. A seating area overlooks the pond allowing residents to observe the wildlife drawn to the water.

The bistro on the lower level of the Broadmead Center connects to a red brick patio enclosed by a low masonry walls and raised planters. South of the enclosed dining area is a sunlit outdoor amenity area activated by a pickleball court, a terraced lawn, and a circular Terrace Garden. Flexible café tables and chairs with umbrellas are located between the court and the garden and lawn.

This central community space lacks a strong organizational feature for these important amenities. For example, the terrace lawn has the potential to be a centrally important space framed by other activities, but currently a raised planter disconnects the dining patio from the lawn. As a part of the facilities expansion, there is a desire to expand the lower dining room to create a three-season space. This proposed addition to the Broadmead Center provides an opportunity to re-imagine the organization of the existing outdoor amenities, improve the relationships and connections between them, consider the addition of new amenities such as a bocce court and ultimately create a more inviting, connected and dynamic hub for the community.

Garden Homes Cluster Courtyard

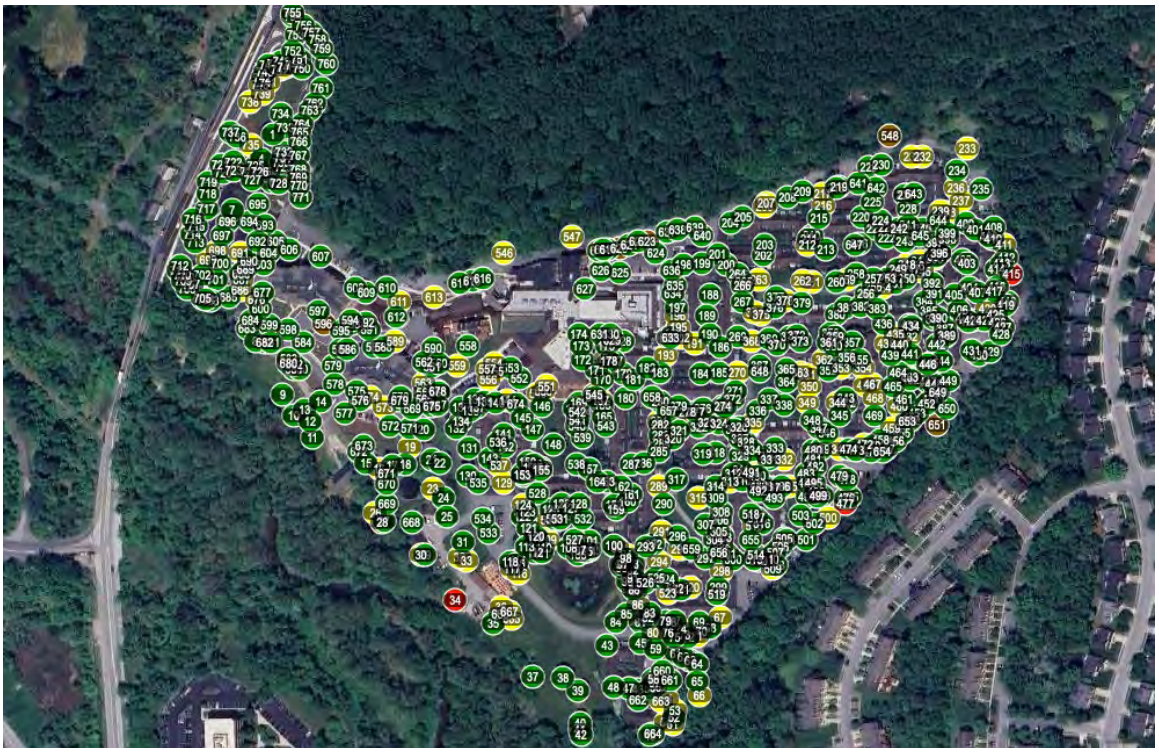
Garden Homes Rear Yard

Broadmead Center

Broadmead Center: Pickleball and Seating Area

BROADMEAD TREE MANAGEMENT

Initiated by the Resident Tree Committee, a tree inventory for the developable land at Broadmead was completed in 2022. The tree inventory included 917 trees and was completed by Bartlett Tree Experts. The comprehensive inventory included multiple health assessment metrics, recommendations including trees for removal, trees requiring structural supports, pruning or vine removal, documentation of dedicated Memorial trees and highest estimated value trees, among others. This enabled the definition of a higher-cost, three-year plan to address deferred maintenance, and then a lower-cost annual program for ongoing preventive maintenance. As the current growing season comes to an end, Bartlett will have completed this three-year plan. Additionally, a complementary effort was initiated to have Maxalea Inc. systematically start planting replacement trees; 27 new trees have been planted, half in the fall of 2023 and the other half this fall. Future phases will be planned in collaboration between the Resident Tree Committee, the Broadmead leadership team and community partners such as the Gunpowder Valley Conservancy. Future phases should consider the tree planting recommendations and priorities provided in this plan, such as the screening of the townhomes and planting additional trees in the flood mitigation areas, in addition to contributing towards Broadmead's goal to achieve Arboretum II status. All tree management work should strive to preserve the existing tree canopy in good health while planting new trees to increase the overall tree canopy.



Map of Tree Inventory

ID	Energy Efficiency	
E1	Energy Systems	Conduct energy audits and commit to a phased EUI reduction over a set period of time. Provide only ENERGY STAR (or equivalent) HVAC equipment and appliances when replacing and improve building envelope.
E5	Renewable Energy	Investigate feasibility of PV integration on campus. Purchase Renewable Energy Certificates (RECs) from Electricity Suppliers.
E6	GHG Emissions	Conduct assessment of carbon emissions across the entire organization. Prepare and implement a GHG Emission Reduction Plan that covers both direct and indirect emissions associated with the Campus

ID	Health & Comfort	
H2	Material Management	During renovations, refurbishments, and new-construction projects select products that disclose their ingredients. Set not-to-exceed limits for VOCs and emissions in high-priority materials (i.e. paints, insulation, flooring, etc.).
H8	Food Practices	Provide tenants with opportunities for gardening, CSAs, and nutrition education programming.

ID	Water Use	
W3	Indoor Water Use	Install low-flow plumbing fixtures in all buildings. Educate tenants and staff on water conservation measures, and how to detect leaks in system.

ID	Biodiversity & Environment	
B1	Natural Habitats	Promote the rewilding of areas on campus by removing non-native/invasive species, and replacing with native/adaptive/pollinator-promoting species local to the region. Survey planting on site to determine lifespan of trees and plantings, and implement a replacement plan.

ID	Materials & Waste	
M1	Waste management	Identify opportunities to reduce, reuse, & recycle waste throughout campus by conducting a one-time waste stream audit. From the audit, develop a waste action plan that sets targets and tracks waste diversion and recycling rates. Include in the plan the reduction of single-use disposable products and composting of organics (i.e. food & landscape waste).
M2	Procurement Policy	Develop and implement an Environmentally Preferable Purchasing (EPP) Policy that prioritizes procurement of products with high post consumer recycled content, low-emissions, and are locally produced and / or made from natural materials. Extend this policy to all areas (i.e., office and cleaning supplies, furniture, & equipment.)

ID	Resiliency	
R1	Climate Change Adaptation	Conduct a vulnerability and capacity assessment for climate change risks, natural and man-made hazards and extreme events. Develop a Plan for the community that incorporates short and long-term climate adaptation and mitigation strategies.

ID	Community	
C3	DEI	Develop and adopt a Diversity, Equality, and Inclusion mission statement formalizing a discrimination-free, quality of life policy for the community.

Summary of Priorities, Broadmead Community Sustainability Plan, Steven Winter Associates, Inc.

COMMUNITY SUSTAINABILITY PLAN PRIORITIES

Following the Community Sustainability Plan (CSP) completed in December of 2023, the Campus Master Plan further develops and expands upon the four categories related to outdoor environment outlined in the Biodiversity and Environment section - Natural Habitats, Light Pollution Reduction, Green Spaces and Stormwater Management.

As a compliment to the CSP, the Campus Master Plan provides a more detailed framework for approaching the preservation of Broadmead's existing environmental resources while providing a vision and design guidelines for the sustainable development of the campus to make it more accessible, to provide more opportunities for gathering and socialization, to provide more opportunities to connect with nature and to reinforce its resilience in event of extreme weather events.

Lake Maybe

Springhouse adn Pond

Garden Homes: Cluster Courtyard

FINDINGS

Our review of site observations, analysis and stakeholder interviews reveals the following as common ideas, observations and themes related to the Broadmead campus.

Strengths:

- **Pedestrian-Oriented Campus Core**: A robust network of covered sidewalks creates a safe, yet open, walkable environment between homes and shared amenities. This is a unique Broadmead feature.

- **Integration of Nature and Open Space:** Residents at Broadmead live in a garden-like setting. Private gardens as well as shared courtyards, open lawns with shade trees enclose the Garden Homes. At a larger scale, the wooded stream valley and hillside surround the community.

- **Location:** Broadmead is within the context of a major metropolitan region. Residents have convenient access to daily services and regional amenities.

- **Comfortable Community Scale:** The arrangement of homes fosters community bonds at multiple levels, from the courtyards that frame the communal space of a cluster of garden homes and community rooms that brings Hillside Home residents together, to the shared dining and community amenities found in the Broadmead Center.

- **People:** Robust community engagement creates strong bonds between residents of diverse backgrounds.

Observations:

- **Steep Slopes:**
  The forested steep slopes that define the northern edge the campus are a challenge for trail improvements and development expansion. This condition also helps maintain a quiet and reflective experience for hikers able to climb the hill.

- **Floodplain and High-Water Table:**
  The sound of the flowing Western Run and the abundance of nature that relies on this vital source of life is a defining asset of the campus. However, the reccurring flooding and boundaries of the floodplain impact the lower portion of the campus and limit expansion and improvements.

- **Ecological Imbalance:**
  The sensitive ecological communities that envelope the campus have been destabilized by erosion, invasive plants, and overpopulated deer resulting in a compromised understory canopy and herbaceous ground layer. These forces compounded together have reduced their ability to provide ecosystem services such as mitigating intense weather events like flooding and their ability to provide habitat and water quality.

- **Environmental Regulations:**
  A wide range of easements and regulations limit development as well as manage sensitive environmental features on campus. Partnerships and coordination with local, state, and federal agencies will be required to intervene and restore these natural areas.

- **Approach and Wayfinding:**
  The sequence of arrival from York Road to the Broadmead Center is an important visual experience. Landscape, art and signage can help enhance the sense of arrival and celebration of community.

Gateway Signage


Entrance Gate


Western Run

Wayfinding Signage

North Copper Beech Road: North Side of Broadmead Center

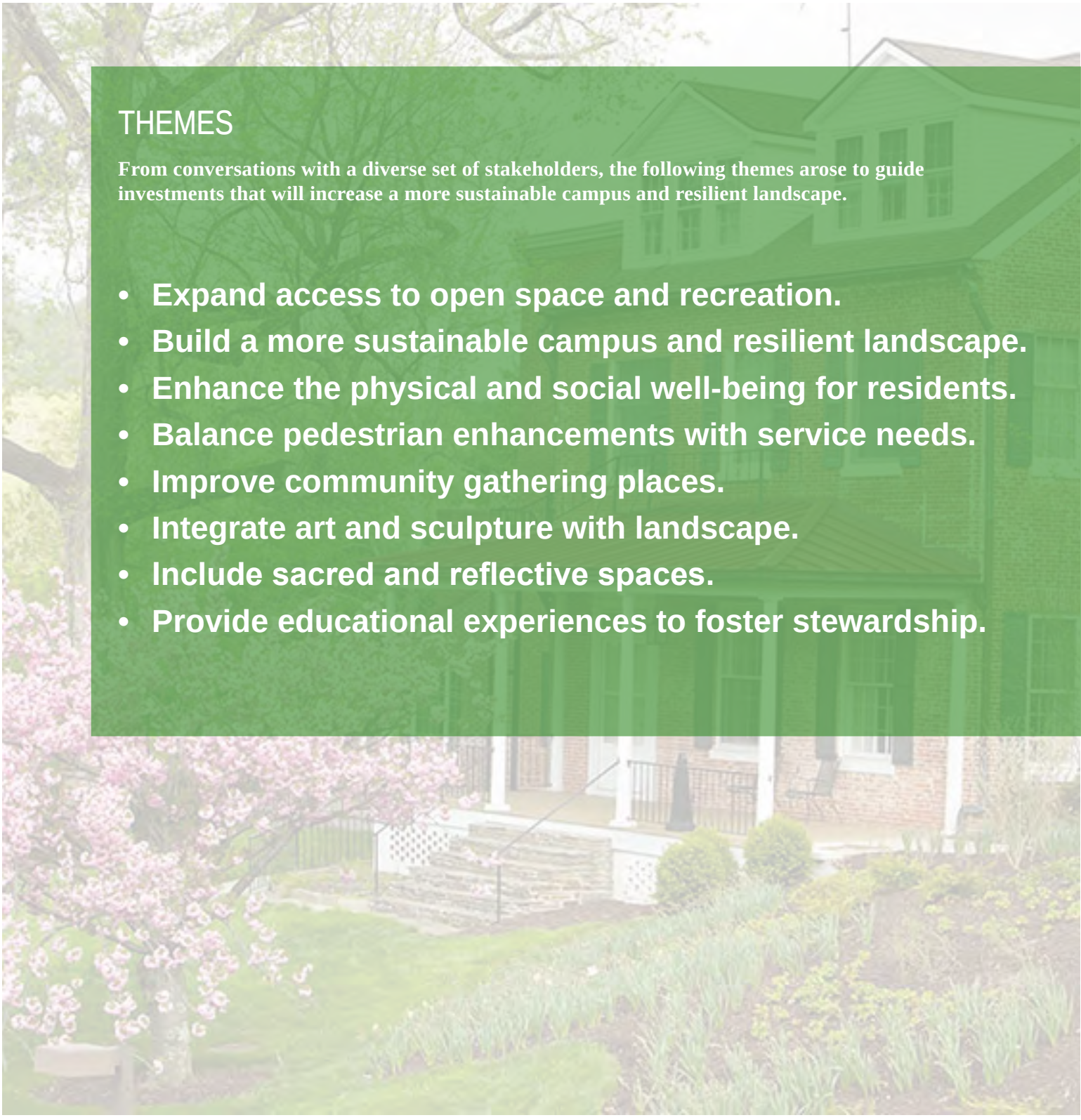
Stairs and Bench Along Inaccessible Walking Path

Stormwater Facility at Visitor Parking Lot

- **Inaccessible Nature:**
  Only residents with the ability to hike on trails can enjoy the beauty of the Upland Forest and the banks of the Western Run. Expanded access to nature is important.

- **Landscape Maintenance:**
  Landscape maintenance for sustainability requires a different approach than is typical for most landscape maintenance companies. One aspect of the preferred maintenance approach is to leave plants uncut through the fall and early spring to provide seed and habitat for overwintering insects, birds and small mammals. The uncut plants also provide color, texture and visual interest throughout the sometimes stark winter months. While residents at Broadmead have met with the landscape contractors to guide them, it is still a on-going challenge.

- **Loop Road Network:**
  The loop road configuration lends itself to be a multi-purpose roadway to support not only cars and service vehicles, but also recreational walkers and strollers. The compact nature of the campus limits roadway expansion to accommodate all users.



THEMES

From conversations with a diverse set of stakeholders, the following themes arose to guide investments that will increase a more sustainable campus and resilient landscape.

- **Expand access to open space and recreation.**
- **Build a more sustainable campus and resilient landscape.**
- **Enhance the physical and social well-being for residents.**
- **Balance pedestrian enhancements with service needs.**
- **Improve community gathering places.**
- **Integrate art and sculpture with landscape.**
- **Include sacred and reflective spaces.**
- **Provide educational experiences to foster stewardship.**

Photo: Broadmead (Carolyn Adams)

VISION AND PLANNING GOALS

This plan offers a set of goals and recommendations to sustain the legacy of Broadmead into its next 30 years. This plan envisions Broadmead to be a **...**

... beautiful and dynamic place that fosters community bonds within a healthy, sustainable and resilient campus.

The following planning goals, aligned with Quaker community values, offers a framework to guide recommendations and design, and establishes the principles to evaluate progress:

Enhance and Sustain a Sense of Community

(Community)

At the heart of Broadmead are the people and the social bonds that join them together. Site designs should enhance opportunities to bring people together to play, work or socialize.

Cherish and Improve the Connection to Nature

(Peace and Stewardship)

Nature is a part of Broadmead's unique identity. Investments made to the campus should continue to connect people with the beauty of the landscape, both within the campus core and within the surrounding ecosystems.

Expand Safe Access for All Residents

(Equality)

The design of the i nterior circulation network is well intended to provide equal access for all. However, site investments should prioritize expanding equal and safe access to shared community spaces within the clusters throughout the community, and to the natural areas surrounding the community.

Transition the Landscape for a Sustainable Future *(Stewardship)*

As the Broadmead campus faces climate change, landscape investments should be beautiful, restore, support and protect ecological functions. Strategies include native plant biodiversity, habitat protection, enhanced water quality and expanded tree canopy. Supporting the ecological function of the landscape will allow the Broadmead campus to be more naturally resilient and able to adapt to future impacts more readily.

Provide Work that Fits into a Balanced Financial Plan

(Financial Prudence and Responsibility)

Recommendations and investments should be thoughtfully evaluated to reconcile their benefits toward community well-being and campus sustainability.

SUMMARY OF STRATEGIES AND RECOMMENDATIONS

Illustrative Campus Plan

BROADMEAD
A Dynamic Lifestyle Community™

The following summary of key strategies and recommendations align with the vision and goals of this master plan, highlighting their interconnected contributions to enhancing both the quality of life and the environment. Plans and diagrams within this Campus Master Plan are illustrative and require additional design development and engineering. The following pages provide a more in-depth exploration of these recommendations.

ENHANCE AND SUSTAIN A SENSE OF COMMUNITY

1. Revitalize and Expand Seating Areas *(multiple locations)* 1
2. Enhance the Holly House 2
3. Enhance and Activate the Central Gathering Space 3
4. Maintain and Improve Existing Campus Amenities Near the Western Run:
    - A. Maintain and Upgrade the Dog Park 4A
    - B. Enhance the Community Garden 4B
    - C. Improve the Sense of Enclosure Around Springhouse and Pool Landscape 4C
    - D. Preserve and Program the Barn 4D
5. Enhance Garden Homes Courtyard and Open Space 5
6. Introduce Site Art and Sculpture to Celebrate Nature and Community *(multiple locations)* 6

CHERISH AND IMPROVE THE CONNECTION TO NATURE

1. Improve Connection to the Western Run:
    - A. Construct a Boardwalk 1A
    - B. Improve the Paw-Paw Path 1B
2. Improve Connection to the Upland Forest:
    - A. Enhance Trail Access and to Activate the Summer House 2A
    - B. Develop Accessible Trails from Provenza Property 2B
3. Implement a Comprehensive Trail Maintenance Plan *(multiple locations)* 3
4. Transform the Campus into an Arboretum and Bird Sanctuary *(campus wide)* 4
5. Develop a Branded Signage Plan to Educate and Promote Stewardship *(campus wide)* 5

EXPAND SAFE ACCESS FOR ALL RESIDENTS

1. Improve Pedestrian Access within the Campus Core and to Site Amenities:
    - A. Extend Covered Walkway to Employee Parking Lot 1A
    - B. Enhance the Gravel Pathway Adjacent to Springhouse and Pool 1B
    - C. Extend Path to Art-Oriented Meadow 1C
    - D. Extend Sidewalks to York Road 1D *(when SHA expands bridge)*
2. Enhance Intersection Safety with Visible Crosswalks **and Traffic Calming** (multiple locations) 2
3. Develop Pedestrian-Priority (Yield) Streets:
    - A. Copper Beech Lane 3A
    - B. Fire Lane 3B
4. Complete the Copper Beech Lane Perimeter Sidewalk Loop 4
5. Balance Parking and Service Needs 5

TRANSITION THE LANDSCAPE TO A SUSTAINABLE FUTURE

1. Cultivate Strategic Environmental Partnerships *(for multiple programs)* 1
2. Support and Expand Native Pollinator Habitat *(multiple locations)* 2
3. Expand Meadow and/or Limited Mow Areas *(multiple locations)* 3
4. Implement a Comprehensive Tree Planting Strategy on Campus:
    - A. Residential Areas *(multiple locations)* 4A
    - B. Successional Buffer Planting 4B
5. Develop a Holistic Forest Habitat Maintenance Plan for the Upland Forest 5
6. Expand and Restore Forest Habitat Along the Western Run:
    - A. Establish a Demonstration Habitat Management Area 6A
    - B. Coordinate Tree Planting and Invasive Plant Removal *(multiple locations)* 6B
    - C. Partner with SHA for Invasive Plant Removal and Wetland Mitigation 6C
    - D. Introduce a Landscape Buffer to Screen Maintenance Yard 6D
7. Develop an Integrated Landscape and Stormwater Management Strategy:
    - A. Introduce Rain Gardens to Garden Homes Courtyards 7A
    - B. Integrate Stormwater Management Best Practices with Site Improvements 7B
    - C. Enhance Planting of Existing Bioretention Planters 7C

ENHANCE AND SUSTAIN SENSE OF COMMUNITY

Enhance and Sustain Sense of Community Framework Diagram

1. Revitalize and Expand Seating Areas *(multiple locations)*
2. Enhance the Holly House
3. Enhance and Activate the Central Gathering Space
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   - A. Maintain and Upgrade the Dog Park
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   - D. Preserve and Program the Barn
5. Enhance Garden Homes Courtyard and Open Space
6. Introduce Site Art and Sculpture to Celebrate Nature and Community *(multiple locations)*

1. REVITALIZE AND EXPAND SEATING AREAS

Evaluate the types, locations and accessibility of existing seating throughout the campus to support Broadmead's effort to provide seating every 250 feet. Improve existing and/or introduce new, strategically located seating options to create inclusive, accessible, and inviting spots for socializing and relaxation throughout the campus. Key areas include shuttle bus waiting areas, new and existing public gathering areas and along accessible routes.

View of Accessible Seating Area

2. ENHANCE THE HOLLY HOUSE LANDSCAPE

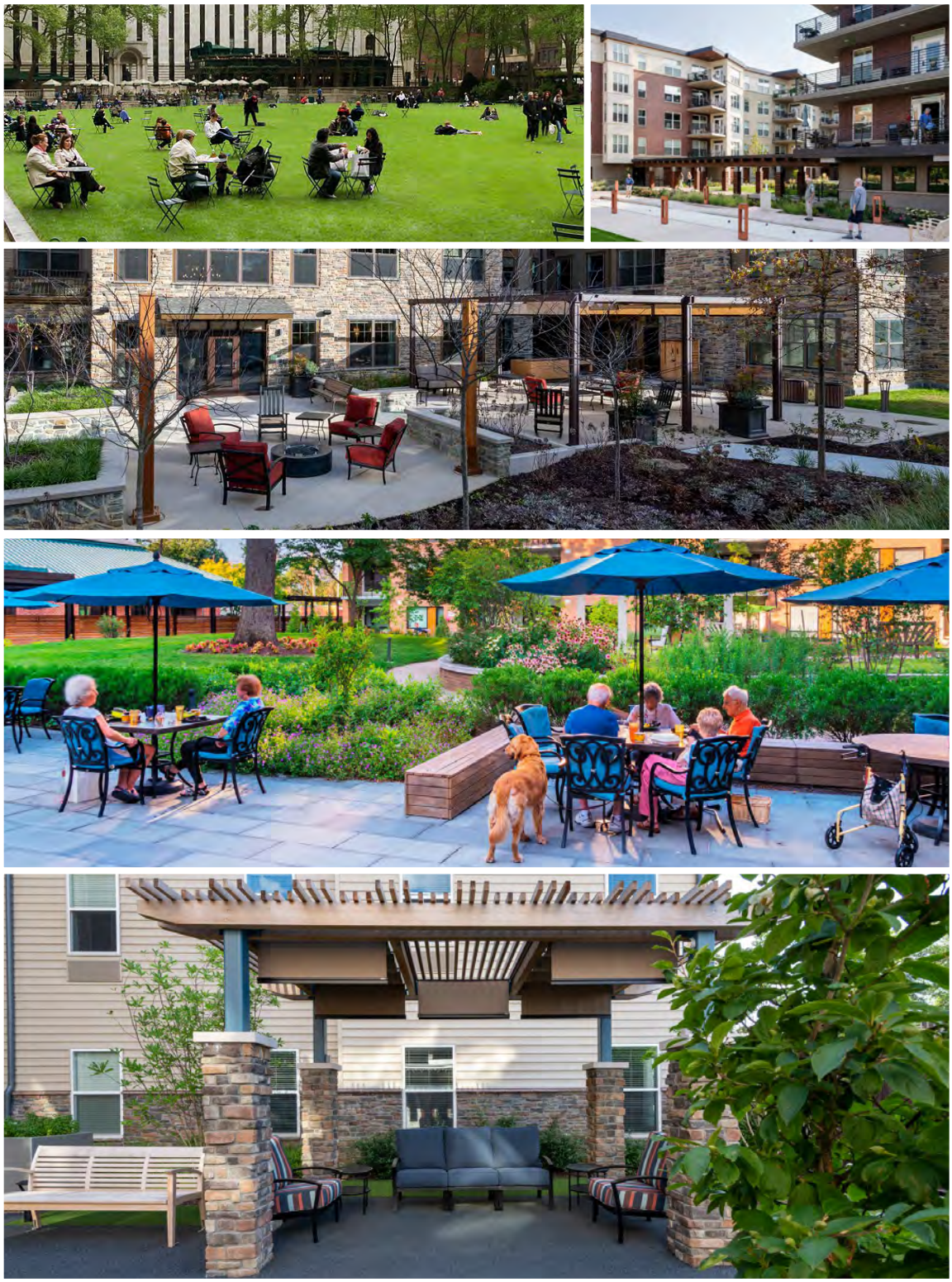
Beautify the landscape around Holly House to elegantly frame the historic lawn and patio seating area, while preserving and enhancing views of the pond, creating a picturesque setting. Upgrade the patio and connecting sidewalks to include durable and flat surface materials to encourage access to this space. Provide flexible furniture to offer a variety of experiences such as picnics, parties, and outdoor classroom space. Screen the Hillside Homes covered walkway to focus views towards historic structure and front lawn.

View of Holly House from Broadmead Center Entrance

1. Three season dining addition
2. Dining terrace
3. Lounge seating with fire pit
4. Flexible Lawn (30’x48’)
5. Bench
6. Paved center of existing Terrace Garden
7. Pergola with movable shades (20’x 8’)
8. Bocci lawn (12’x 60’)
9. Existing pickleball courts
10. Terraced planters (potential stormwater planters)
11. Tables and chairs with umbrellas

3. ENHANCE AND ACTIVATE THE CENTRAL GATHERING SPACE

Adjacent to the Broadmead Center and at the heart of the campus, this space is essential in gathering residents and supporting a sense of connection and community. Expanding the amenities to include spaces such as a three season dining room, expanded outdoor dining terrace, an open lawn for a variety of programs like musical performances or movies and a bocce court offer a much wider variety of opportunities to invite residents to come together. Organizing these spaces along with the existing Pickleball court and terrace garden in a way that the are well connected allows residents to easily flow within this space creating an engaging, vibrant central hub within the community.



Precedent ideas for the Central Gathering Space

4. MAINTAIN AND IMPROVE EXISTING CAMPUS AMENITIES NEAR THE WESTERN RUN

A. Maintain and Upgrade the Dog Park: Preserve the dog park while considering enhancements such as a more accessible entrance, a wider variety of seating options, agility equipment, and a water station for pets to ensure a welcoming and enjoyable space for pets and owners.

B. Enhance the Community Garden: Improve the community garden by adding comfortable seating, shade structures, elegant surround fencing and educational signage, transforming it into a relaxing and interactive space for all visitors. Consider providing a comfort station (composting toilet) within vicinity of garden for both gardeners and landscape contractors.

C. Spring House and Pool Landscape: Carefully considered planting could be added around this amenity area to create a sense of enclosure on the south side that may facilitate a more contemplative setting. Planting design should maintain the open viewshed to the north of the Historic Holly House and lawn. Evergreen plantings are recommended to screen the existing garage building to the east.

D. Preserve and Program the Barn: Preserve the barn to reduce ongoing deterioration. Explore opportunities to program the barn to support outdoor community functions, such as a contemplation space, open air art gallery, event pavilion. Restoration work may include upgrading electrical and plumbing to expand the range of possible community functions.

SUGGESTED PLANTS FOR THE SPRING HOUSE AND POOL LANDSCAPE

NATIVE DEER RESISTANT EVERGREENS

American Holly - Ilex opaca *(multiple varieties)*

Yaupon Holly - Ilex vomitoria *(multiple varieties)*

Inkberry Holly - Ilex glabra *(multiple varieties)*

Mountain Laurel - Kalmia latifolia
(many varieties and colors)

Sweetbox - Sarcococca hookeriana

NON-NATIVE DEER RESISTANT EVERGREEN

Western Red Cedar- Thuja plicata
(many varieties; non-native, but deer resistant)

*Note: Thuja occidentalis is native, but not deer resistant.

NATIVE DEER RESISTANT FLOWERING TREES

Dogwood - Cornus florida

Sweetbay Magnolia - Magnolia virginiana

Eastern Redbud- Cercis canadensis

Witchhazel - Hamamelis virginiana

Example of Community Garden Shade Structure

5. ENHANCE GARDEN HOMES COURTYARD AND OPEN SPACE

1. Provide flexible and fixed seating on a durable, hard surface patio, with adequate space to accommodate access for all residents.
2. Preserve existing trees to maintain a shady lawn experience.
3. Install rain garden around existing storm drain to improve water quality. Refer to Rain Gardens Across Maryland (see Appendix)
4. Include flowering trees to promote seasonal variation and attract birds and pollinators.

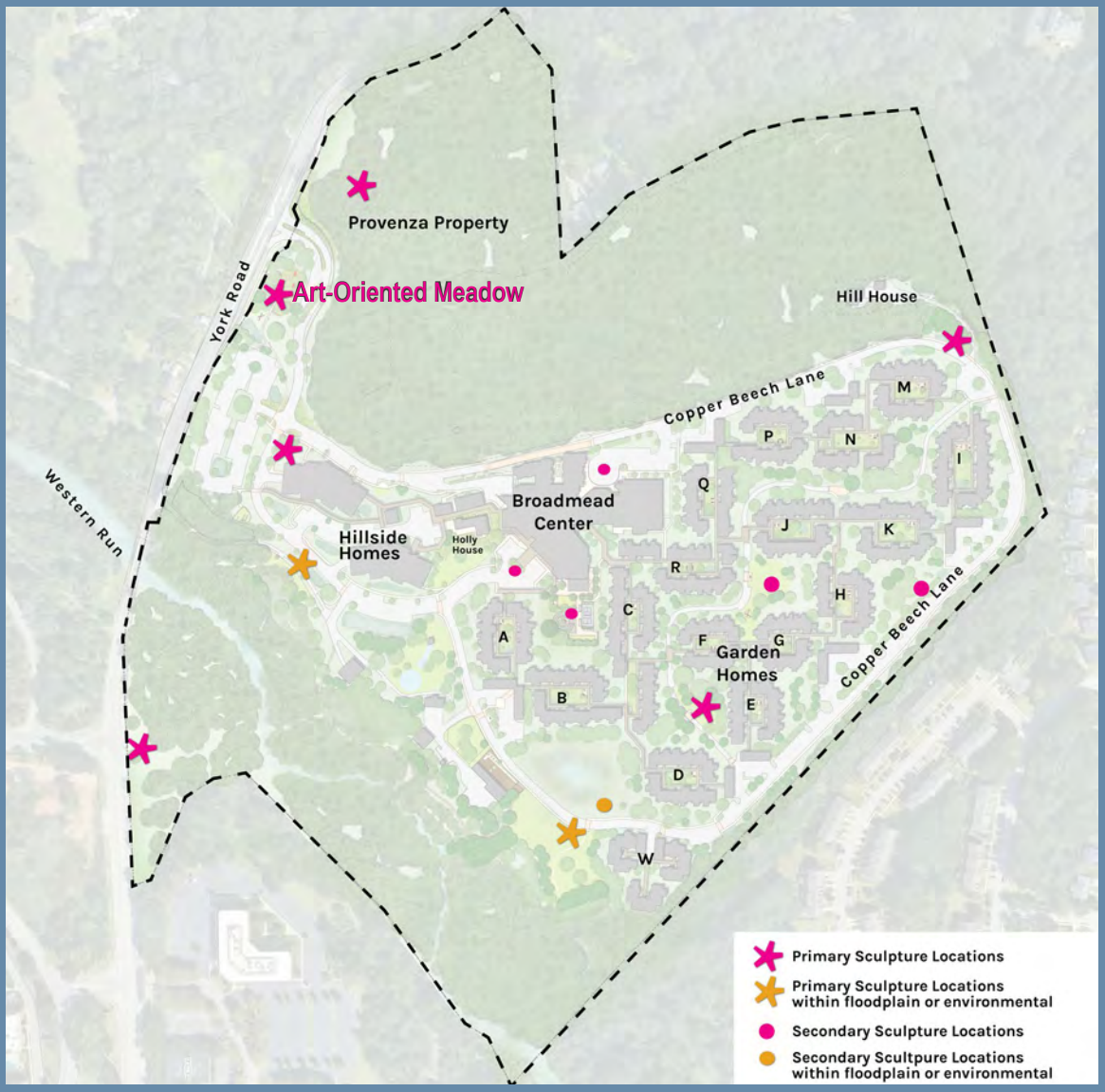
Examples of Typical Cluster Courtyard Site Enhancements

The Garden Home's central courtyards are the heart of gathering for each of residential cluster. Depending on the cluster, they vary in size, but have the same outdoor elements - an open lawn, tree(s), some planting and an area drain, surrounded by a concrete walk and residents personal plantings. While they are the heart of gathering, as designed they cannot welcome all residents equally due to narrow sidewalks and few or no designated level spaces to set furniture, pull up in a rollator or wheel chair or sit with enough clear space for a walker. This plan recommends design interventions, as noted in diagram, to create a more equitable, welcoming outdoor space for all residents. Additionally, these courtyards are also seen as opportunities to implement the Master Plan's goal to mitigate existing storm water conveyance on this part of campus through the use of current storm water management practices such as rain gardens. These gardens can also support native pollinators through the strategic selection of rain garden plants.

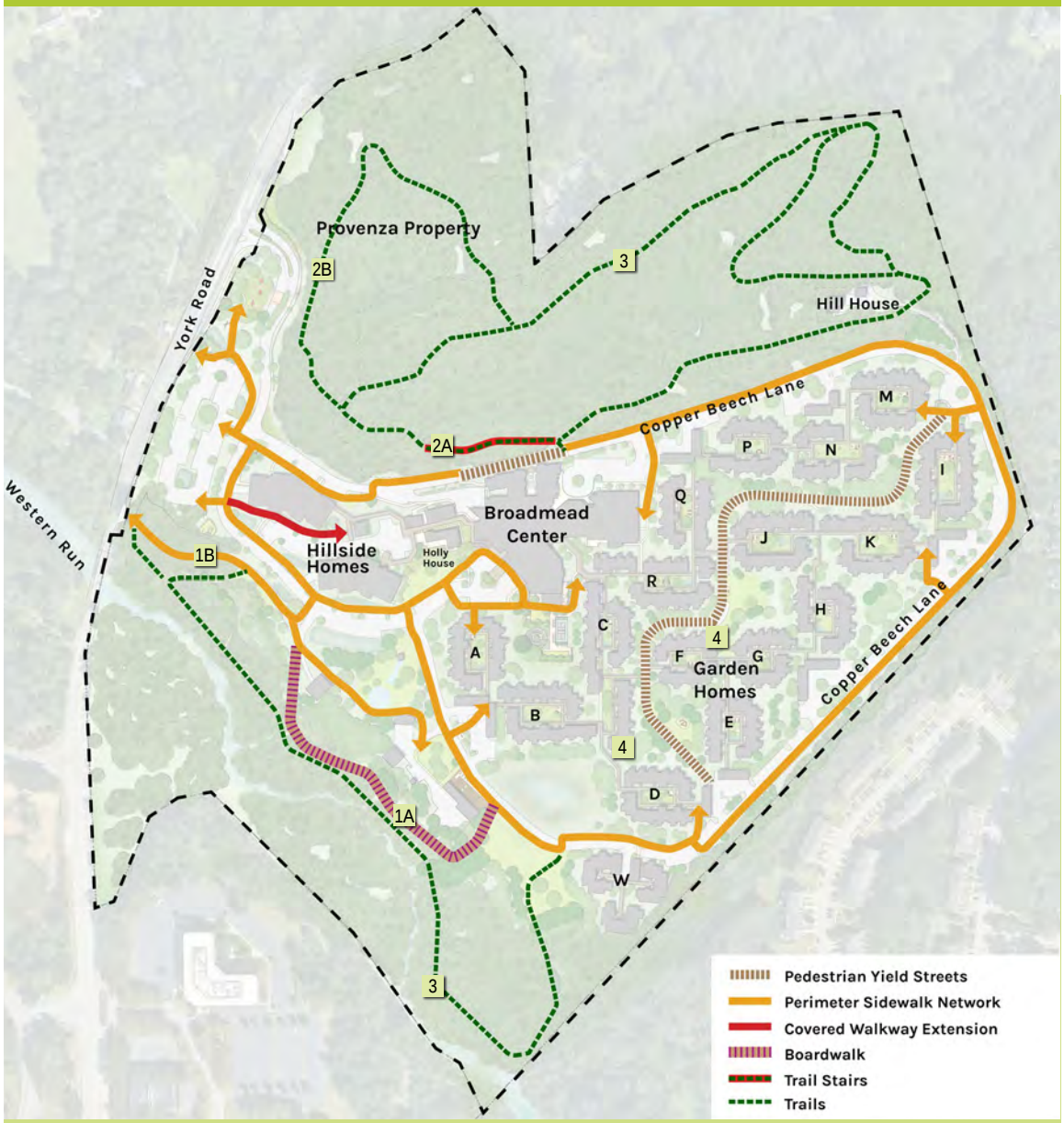


6. INTRODUCE SITE ART AND SCULPTURE TO CELEBRATE NATURE AND COMMUNITY

Integrate sculpture and art-oriented landscapes throughout Broadmead that not only highlight the natural beauty of the area but also embody the sense of community, fostering a deeper connection between residents and their environment. Develop an art-oriented meadow at York Road entrance, incorporating local and regional artists' work to create an engaging cultural destination that reflects the community's artistic spirit. The diagram below illustrates highly visible spaces on campus to include art and/or to artistically transform the landscape to create a sense of place. The establishment of art in these spaces will follow an art procurement process and be funded with Sculpture & Art Committee funds rather than general Broadmead funds.



CHERISH AND IMPROVE THE CONNECTION TO NATURE



Connection to Nature Framework Plan

1. Improve Connection to the Western Run
    A. Construct a Boardwalk
    B. Improve the Paw-Paw Path
2. Improve Connection to the Upland Forest
    A. Enhance Trail Access to Activate the Summer House
    B. Develop Accessible Trails from Provenza Property
3. Implement a Comprehensive Trail Maintenance Plan *(multiple locations)*
4. Transform the Campus into an Arboretum and Bird Sanctuary *(campus wide)*
5. Develop a Branded Signage Plan to Educate and Promote Stewardship *(campus wide)*

Examples of Boardwalks and Overlooks

1. IMPROVE CONNECTION TO THE WESTERN RUN

A. Boardwalk: Develop a well-designed boardwalk to provide enhanced access to the Western Run and also offers scenic viewpoints, seating, as well as interpretive signage to enrich the visitor experience. An elevated walkway is a low-impact development approach to building an accessible walk through the flood plain without crossing the Western Run. It reduces potential foot traffic compaction and minimizes potential impacts from rainwater runoff and flooding. The design and alignment of the boardwalk can help expand the campus pedestrian network, such as linking the trails with the community garden.

B. Paw Paw Path: Resurface the old road bed to eliminate warps and cracks caused by settlement and weatherization. Consider removing ashpalt to reduce the width of asphalt along this pathway. Incorporate seating to capture views of this open space.

2. IMPROVE CONNECTION TO THE UPLAND FOREST

A. Enhance Trail Access to Activate the Summer House: Upgrade the trail leading to Summer House by installing well-crafted stairs and sturdy handrails, ensuring safe and comfortable access for many visitors while preserving the natural surroundings. Activate the Summer House by providing a variety of more universally accessible seating and/or table and chairs. Consider enclosing the Summer House with screens to provide protection from insects and create a more user-friendly experience throughout the seasons.

View of Summer House

B. Develop Accessible Trails From the Provenza Property: Coordinate with future campus efforts and site improvements on the Provenza site to create an accessible trail, ensuring seamless connectivity and inclusivity for all users. Currently a network of hiking trails traverses the woods providing capable hikers access to the upland forest conservation area and adjacent Provenza site. However, this unique woodland experience cannot be enjoyed by all. Future development or site improvements on the Provenza property offers an opportunity to establish a boardwalk or accessible path at a higher elevation for more people to enjoy this upland experience.

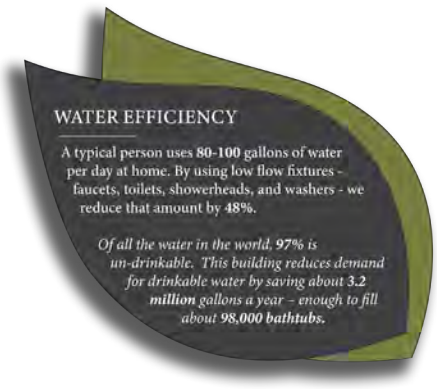
Example of Accessible Path

3. IMPLEMENT A COMPREHENSIVE TRAIL MAINTENANCE PLAN

Develop a maintenance plan focused on stabilizing trails, reducing erosion, and protecting the natural landscape, ensuring long-term sustainability and usability of the trail network. The essential elements of the plan should include erosion control, water management, vegetation control as well as surface repairs to keep trails safe and enjoyable for residents. The plan should include regular inspection and assessment to identify issues before they become significant problems. This strategy should be done comprehensively with wetland and forest ecosystem restoration efforts.

4. TRANSFORM THE CAMPUS INTO AN ARBORETUM AND BIRD SANCTUARY

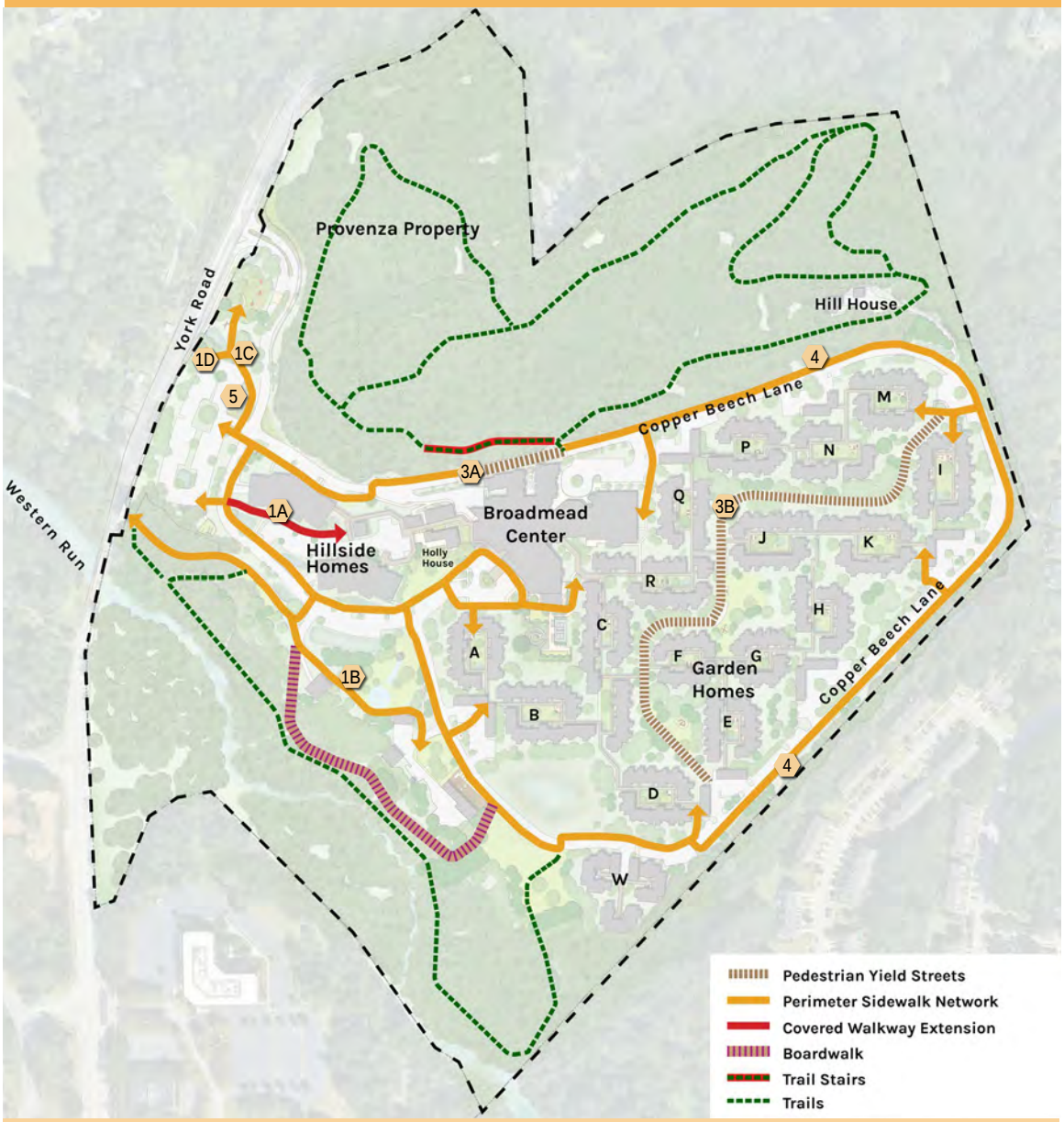
Continue to plant a variety of tree species to achieve arboretum status and contribute to bird habitat and food sources. Collaborate with bird conservation organizations to specify additional understory plantings and other bird-friendly initiatives to welcome, support and protect a diversity of local bird species.



5. DEVELOP A BRANDED SIGNAGE PLAN TO EDUCATE AND PROMOTE STEWARDSHIP

Create a cohesive and visually appealing signage plan that educates visitors on the ecological and cultural significance of the area, fostering a sense of stewardship and community pride.

EXPAND SAFE ACCESS FOR ALL RESIDENTS



Safe Access Framework Diagram

1. Improve Pedestrian Access within the Campus Core and to Site Amenities
    - A. Extend Covered Walkway to Employee Parking Lot
    - B. Enhance the Gravel Pathway Adjacent to Springhouse and Pool
    - C. Extend Path to Art-Oriented Meadow
    - D. Extend Sidewalks to York Road (when SHA expands bridge)
2. Enhance Intersection Safety with Visible Crosswalks and Traffic Calming *(multiple locations)*
3. Develop Pedestrian-Priority (Yield) Streets
    - A. Copper Beech Lane
    - B. Fire Lane
4. Complete the Copper Beech Lane Perimeter Sidewalk Loop
5. Balance Parking and Service Needs

1. IMPROVE PEDESTRIAN ACCESS WITHIN THE CAMPUS CORE AND TO SITE AMENITIES

Upgrade and improve pathways to ensure widths, materials and slopes accommodate walkers and those with mobility assistive devices to ensure more universal access to the pond, dog park, community gardens and apiary making these amenities more accessible and enjoyable for many more residents. The following recommendations support this strategy:

A. Extend Covered Walkway to Employee Parking Lot:
Expand the covered walkway network to seamlessly connect the employee parking lot to the employee entrance at Broadmead center, provide weather protection and enhance the overall experience for staff and visitors commuting between their vehicles and the workplace. The proposed covered walkway on the south side of west Hillside Home keeps the structure below the residential floor to avoid visual impact to residents. This segment starts at Copper Beech Lane and ties into the existing covered walkway near the screened mechanical equipment without traversing roadways or displacing stormwater facilities.

View Existing Gravel Pathway at the Pond-

B. Enhance the Gravel Pathway Adjacent to the Springhouse and Pool:
Maintain the gravel pathway near the spring house and former pool to sustain access to this area. Include accessible seating opportunities along the path and within the lawn area. Study an accessible route on the east side of the pond to connect with the perimeter sidewalk extension of Copper Beech Lane .

C. Extend Path to Art-Oriented Meadow:
Extend a pathway to art-oriented meadow at the York Road entrance to allow residents to enjoy this experience. Include seating to provide comfort and reflection of the art.

D. Extend Sidewalks to York Road:
Expand sidewalk infrastructure to connect with York Road, readying the campus for future pedestrian connectivity when SHA renovates and expands the York Road bridge with sidewalk access. A pedestrian bridge attached to York Road will have the least disruption to the stream valley and provides connection to Hunt Valley.

Examples of visible and raised crosswalks

2. ENHANCE INTERSECTION SAFETY WITH VISIBLE CROSSWALKS AND TRAFFIC CALMING

Implement highly visible crosswalks along with effective traffic calming measures at key intersections to improve pedestrian safety and encourage slower vehicle speeds. Raised crosswalks provide both a level connection between sidewalks for pedestrians and a speed calming device to reduce vehicular speeds. Durable and contrasting color surface materials heighten the visibility of the pedestrian to vehicle drivers. Textured surface material aligned parallel to the crosswalk offers a contrasting and visible material while the texture helps slow cars.

Illustriative view of Yield Street north of Broademad Center

View of Copper Beech Lane north of Broademad Center

3. DEVELOP PEDESTRIAN-PRIORITY STREETS

Designate and develop Copper Beech Lane north of the Broadmead Center and the Fire Lane as pedestrian-priority streets, ensuring these areas are safe, accessible, and welcoming for foot traffic by reducing the vehicular cartway width and/or using a change of material to emphasize pedestrian right-of-way.

A. Copper Beech Lane:

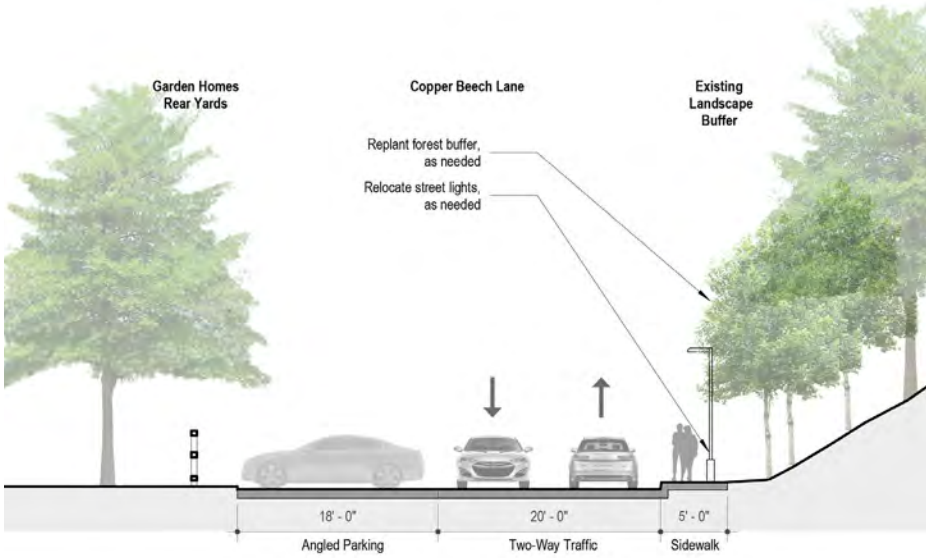
The existing 20-foot Copper Beech Road section north the Broadmead Center contains narrow buffers of less than 4 feet on each side of the roadway. A 16-foot wide street is proposed to slow through vehicular traffic and provide a sidewalk along the north side of the street. A mountable curb along the sidewalk provides space for emergency vehicles to pass without obstruction or delay.

B. Fire Lane:

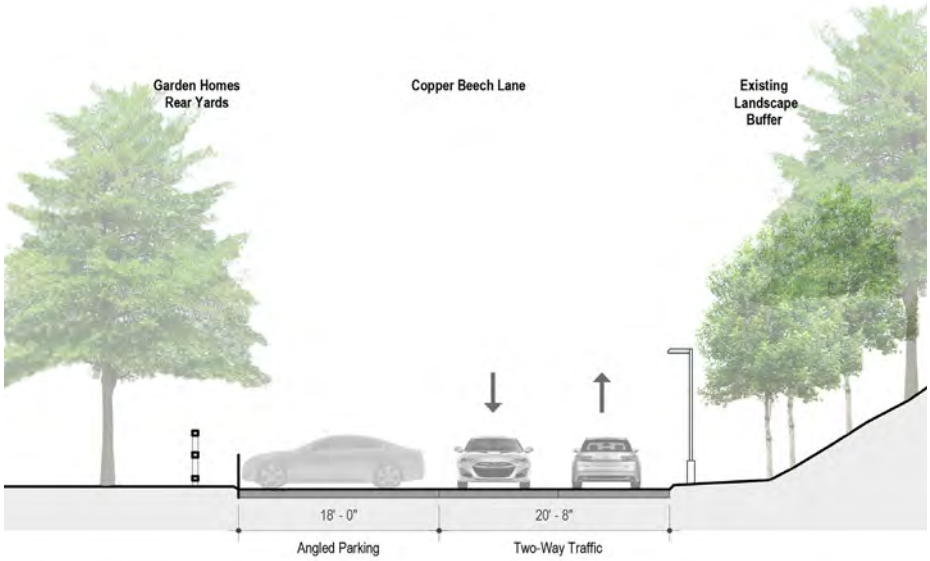
The fire lane is currently one-way, approximately 12- to 14-foot wide asphalt lane without curbs. This narrow road provides access for shuttle bus service, pedestrians, and private vehicles. Slow and infrequent vehicle access makes the fire lane a candidate as a shared street with pedestrians as the priority user. Changes in surface materials offer placemaking opportunities linked with existing sidewalks and proposed seating areas to enjoy the open space, while addressing vehicular traffic.

4. COMPLETE THE COPPER BEECH LANE PERIMETER SIDEWALK LOOP

Reposition older sections of Copper Beech Lane to provide a continuous walking path that connects key areas within the community, promotes recreation and access to nature. The preferred alignment maintains two-way traffic and locates the sidewalk along outer edge of Copper Beech Lane where there are fewer curb cuts and vehicular conflicts. Due to a limited buffer adjacent to Cluster W homes and Copper Beech Lane, the sidewalk needs shift to the inside of the roadway. Where possible the minimum two-way through lane width should be reduced to 20-feet. Porous concrete sidewalks should be explored to reduce stormwater impacts.



Copper Beech Lane East of Garden Homes: Proposed Typical Section



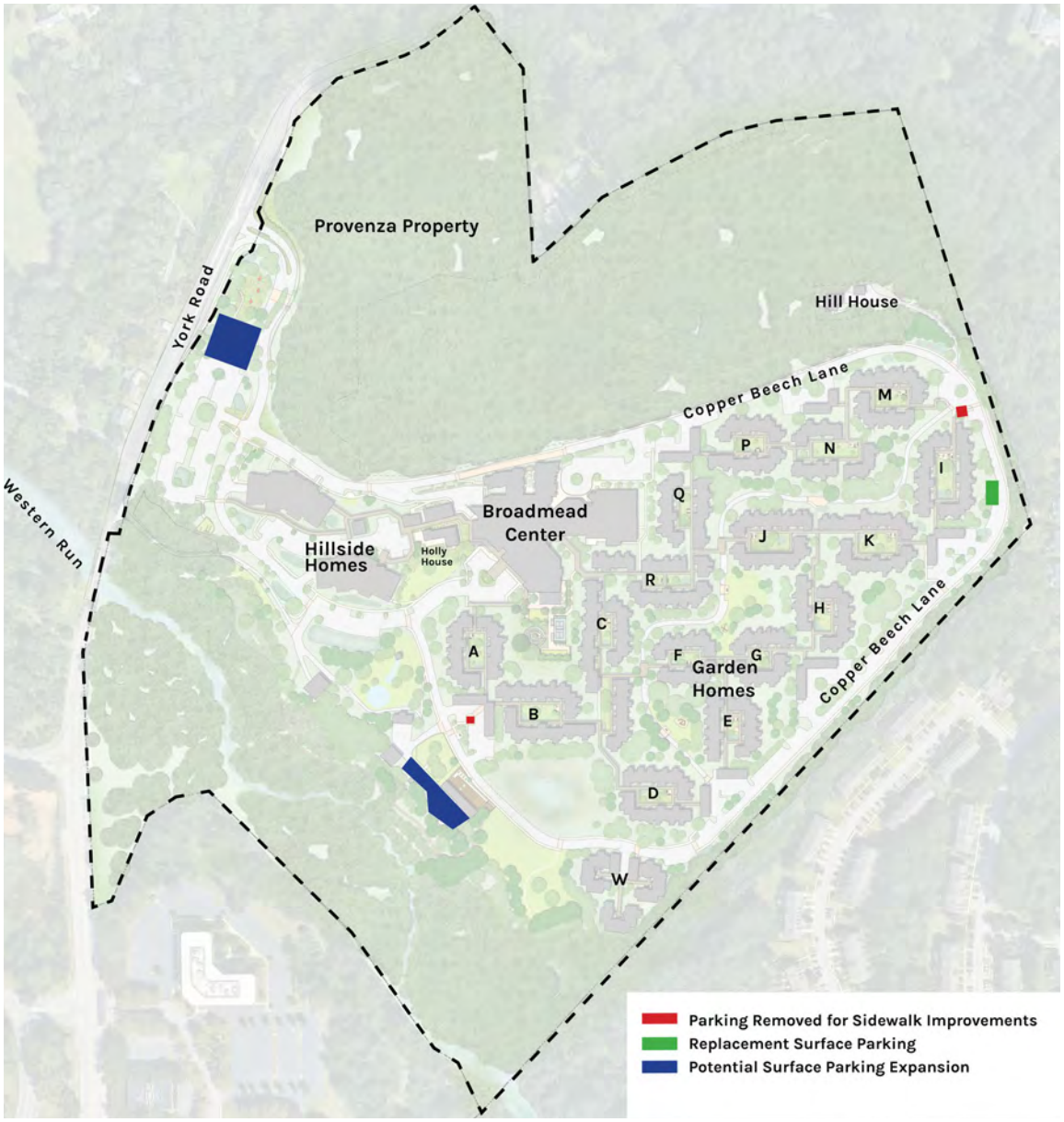
Copper Beech Lane East of Garden Homes: Existing Typical Condition

5. BALANCE PARKING AND SERVICE NEEDS

Expand and reconfigure parking spaces on campus to minimize disturbance to the existing landscape and environmental systems. In addition to relocating parking along Copper Beech Lane to accommodate improved crosswalks, this plan explores expanding parking at the visitor parking lot and reorganizing the maintenance yard to accommodate up to 30 additional parking spaces to meet the daily needs of the campus.

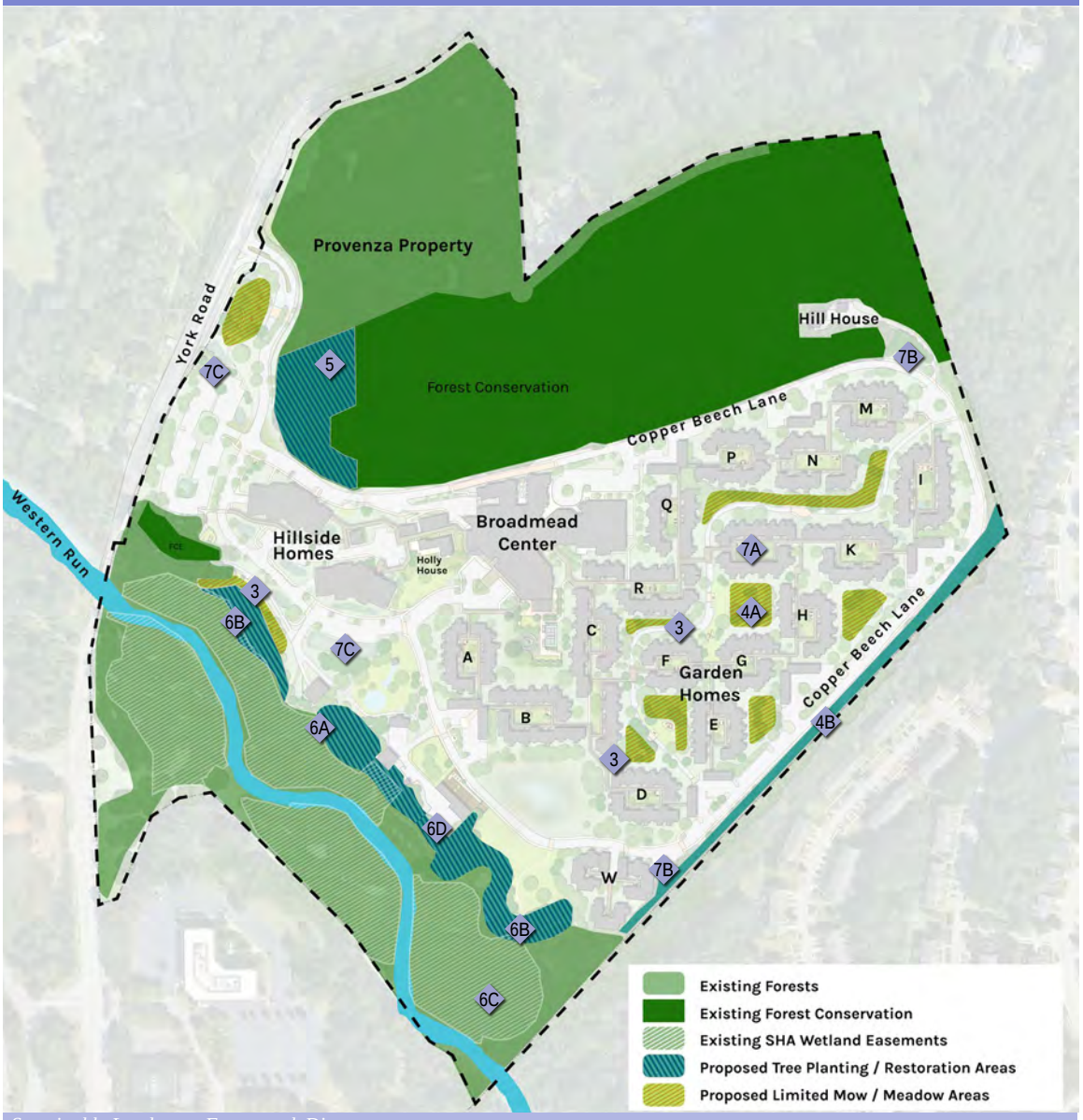
Expansion of the visitor parking lot to the north preserves safe distance around the existing Copper Beech tree, places new parking over previously disturbed land, and adds approximately 24 additional spaces. This expansion will require additional stormwater management or modification of existing bioretention areas to support new impervious surfaces.

Reorganizing the asphalt surface of the maintenance yard provides an opportunity to clearly delineate 5-6 parking spaces for staff parking. Consideration should be given to provide a designated accessible parking space for dog park visitors. Explore locating a comfort station (composting toilet) within the maintenance yard to support landscape contractors.



Future Parking Diagram

TRANSITION THE LANDSCAPE FOR A SUSTAINABLE FUTURE



Sustainable Landscape Framework Diagram

1. Cultivate Strategic Environmental Partnerships *(for multiple programs)*
2. Support and Expand Native Pollinator Habitat *(multiple locations)*
3. Expand Meadow and/or Limited Mow Areas *(multiple locations)*
4. Implement a Comprehensive Tree Planting Strategy on Campus
    - A. Residential Areas *(multiple locations)*
    - B. Successional Buffer Planting
5. Develop a Holistic Forest Habitat Maintenance Plan for the Upland Forest
6. Expand and Restore Forest Habitat Along the Western Run
    - A. Establish a Demonstration Habitat Management Area
    - B. Coordinate Tree Planting and Invasive Plant Removal *(multiple locations)*
    - C. Partner with SHA for Invasive Plant Removal and Wetland Mitigation
    - D. Introduce a Landscape Buffer to Screen Maintenance Yard
7. Develop an Integrated Landscape and Stormwater Management Strategy
    - A. Introduce Rain Gardens to Garden Homes Courtyards
    - B. Integrate Stormwater Management Best Practices with Site Improvements
    - C. Enhance Planting of Existing Bioretention Facilities

1. CULTIVATE STRATEGIC ENVIRONMENTAL PARTNERSHIPS

Forge strategic partnerships with both on-campus and off-campus organizations to coordinate and enhance environmental restoration efforts, ensuring collaborative and impactful outcomes.

- Broadmead staff and maintenance contractors
- Broadmead Trees Working Group
- Broadmead residents
- Gunpowder Valley Conservancy
- Baltimore County Department of Environmental Protection and Sustainability
- Maryland State Highway Administration (SHA)
- Maryland Department of the Environment (MDE)
- US Fish and Wildlife Services (USFWS)
- Army Corps of Engineers
- Chesapeake Bay Trust
- Local universities and colleges
- Landscape Contractors

Baltimore Checkerspot Butterfly

View of Wet Prairie-Turtlehead, Joe Pye Weed, Boneset, Cord Grass

2. SUPPORT AND EXPAND NATIVE POLLINATOR HABITAT

According to the Maryland Department of Natural Resources and the Maryland Cooperative Extension many pollinators in Maryland and around the world are in decline. If insects disappear, most flowering plants would go extinct, leading to the collapse of food webs that support birds, animals, reptiles, amphibians and humans.

In Maryland, the most important group of pollinators is bees with more than 430 species found in the state. Other pollinators include butterflies, ants, beetles, flies, months, wasps and the Ruby-throated Hummingbird.

By hosting an apiary and prioritizing native plants, such as in the Baywise Garden in front of the Broadmead Center, Broadmead is already supporting the needs of pollinators. This plan recommends expanding the scope of pollinator specific plantings throughout campus. Furthermore, by understanding the most vulnerable pollinator populations, like Maryland's State Insect, the Baltimore Checkerspot butterfly, and targeting plant selections to support them, Broadmead can make an even greater impact on their populations and ecosystem balance.

There are many resources for native pollinator plants and suggested garden plans. The plants in these resources can be used throughout the Broadmead Campus in various settings from low mow areas, to a demonstration garden, to the Cluster Homes courtyard gardens and backyards, around the apiary, in rain garden and bioretention plantings. They can be cross-referenced with the other plant lists suggested in this report to find plants that are suitable in a number of different conditions maximizing the ecological benefit. For example, when selecting plants for bioretention plantings choosing ones that can tolerate the soil conditions, sun exposure, salt tolerance and provide pollinator food sources, nesting sites and/or habitat can multiply the ecological benefit.

See suggested pollinator plant lists in the Appendix and at the links below:

https://www.pollinator.org/

https://dnr.maryland.gov/wildlife/Pages/habitat/wawhatsthebuzz.aspx

https://extension.umd.edu/locations/charles-county/master-gardener/pollinators/

Examples of Meadow and Limited Mow Areas

3. EXPAND MEADOW AND/OR LIMITED MOW AREAS

Increase the extent of limited mow or meadow areas to reduce the area of turf lawn. This approach will reduce the scope of fossil fuels used in the maintenance of the landscape by reducing the area of mowing and reducing the use of fertilizers, pesticides and herbicides. At the same time it will also increase the area of habitat and food sources for pollinators which, in turn, support the rest of the food web. Accompany this initiative with informational signage to educate visitors on the ecological benefits of these spaces. Meadows and limited mow areas can serve as the natural transition between forest edges and open lawn spaces.

4. IMPLEMENT A COMPREHENSIVE TREE PLANTING STRATEGY ON CAMPUS

A. Residential Areas:

Plant new shade trees on campus to replace aging trees, increase tree canopy coverage and frame shared lawns and public spaces to ensure trees remain an integral feature on campus. The planting strategy should:

- **Prioritize Tree Maintenance and Canopy Replacement:** Align with the Tree Inventory Plan to strategically prioritize the maintenance and replacement of the campus canopy.

- **Focus on Native Species:** Emphasize planting native species to promote biodiversity and resilience within the campus ecosystem. See Plant List.

- **Achieve Arboretum Status:** Continue to work towards achieving arboretum status, enhancing the educational and aesthetic value of the campus landscape.

B. Successional Tree Planting for Screening Townhomes on Southeast Border:

As the existing White Pines (Pinus strobus) mature and start to decline their ability to substantially screen the view to the neighboring townhome community will be diminished. It is recommended to implement a succussion process and start interplanting young trees where there are openings in the existing stand. It may be required to selectively remove existing large trees to open up areas to make room for young trees and/or provide sunlight to allow existing understory saplings to grow. Consult an arborist to further advise on this recommendation based on completing an assessment of the health of the existing tree stand and individual trees, the openness and prevalence of White Pine saplings within the stand and the space required to plant new trees if needed. Consideration can be given to diversifying the stand with other native evergreens such as Pitch Pine (Pinus rigida).

NATIVE SHADE TREES

Source: Baltimore County Landscape Manual

Red maple	Acer rubrum *
Amelanchier	Amelanchier spp.
River Birch	Betula nigra *
Paperbark Birch	Betula papyrifera
Hackberry	Celtis occidentalis
Redbud	Cersis canadensis
Florida dogwood	**Cornus florida**
Cockspur hawthorn	Crataegus crusgalli
Washington Hawthorn	Crataegus phaenopyrum
Winter King Hawthorn	Crataegus viridis
Beech	Fagus grandifolia
Honeylocust	Gleditsia triacanthos
Kentucky Coffeetree	Gymnocladus dioicus
Carolina Silverbell	Halesia tetraptera
American Sweetgum	**Liquidambar styraciflua ***
Tulip Poplar	Lirodendron tulipfera
Sweetbay	Magnolia virginiana *
American Planetree	Plantanus occidentalis *
White Oak	Quercus alba
Swamp Oak	Quercus bicolor *
Scarlet Oak	Quercus coccinea
Shingle Oak	Quercus imbricaria
Pin Oak	Quercus palustris *

**Indicates also suitable in wetland conditions*

5. DEVELOP A HOLISTIC FOREST HABITAT MAINTENANCE PLAN FOR THE UPLAND WOODS

Protect and maintain the Upland Woods from deterioration to ensure future enjoyment of this unique environmental asset. Maintenance and restoration efforts should align with trail improvements. Partnerships, such as with the US Department of Fish and Wildlife-Coastal Program will be needed for help implement planting, invasive removal and maintenance monitoring. This habitat maintenance plan should include the following:

- **Remove Invasive Species**: Implement a thorough invasive species removal program to protect and restore the health of Upland Woods.
- **Control Erosion**: Introduce effective erosion control measures to stabilize the slopes and prevent further degradation.
- **Plant New Canopy and Understory Trees**: Enrich the forest habitat by planting new canopy and understory trees, ensuring a diverse and thriving forest ecosystem.
- **Implement Deer Fencing and Mitigation Measures**: Install deer fencing and employ other mitigation strategies to protect young trees and vegetation from overgrazing.
- **Expand Forest Conservation Area:** Place existing Upland forest area within a forest conservation easement to ensure lasting protection of the trees from development and to offset easement adjustments needed for improvements to Copper Beech Lane.

TREE CANOPY COVERAGE GOAL

In 2013, Baltimore County set its tree canopy goal to achieve and maintain a 50 percent tree canopy Countywide within the three drinking water reservoir watersheds by the year 2025. Additionally, the County will strive to achieve and maintain a 40 percent tree coverage within more populated areas inside the Urban Rural Demarcation Line and for each Census Designated Places (CDPs). (https://www.baltimorecountymd.gov/departments/environment/forests-trees)

53.7%

At the time of this planning process, is estimated that Broadmead contains 48.8 acres* of tree canopy. This represents 53.7% of the 90.8 acres of the Broadmead campus, exceeding Baltimore's County tree canopy coverage goal. As new developments occur, maintaining an overall tree canopy coverage goal above 50% is encouraged.

**Note: The estimated tree canopy coverage calculation was based two metrics: a land area take-offs based on aerial photography for the surrounding forest areas and a standard tree canopy square footage applied to the trees listed in the 2022 Broadmead Tree Inventory, located within the developed portion of the property.*

5. EXPAND AND RESTORE THE WETLAND AND FOREST ECOSYSTEM ALONG THE WESTERN RUN

Coordinate strategies to restore, expand and stabilize the wetland and forest ecosystem to help strengthen resilience to flooding and environmental stress.

A. Establish a Demonstration Habitat Management Area:
Create a designated habitat management demonstration area near accessible paths, complete with perimeter signage to educate and inspire visitors about sustainable land management practices. Restoration areas along the proposed boardwalk provide convenient access for people to enjoy and experience nature.

B. Coordinate Tree Planting and Invasive Plant Removal:
Collaborate with the Gunpowder Valley Conservancy to implement new tree planting efforts and the removal of invasive plants including an effective habitat management plan. Gaps in the forest along the Western Run present opportunity planting locations.

C. Partner with SHA for Invasive Plant Removal and Wetland Mitigation:
Coordinate with the State Highway Administration (SHA) and other partners to remove invasive plants and implement wetland mitigation improvements to restore ecological function to these sensitive ecosystems.

D. Introduce a Landscape Buffer to Screen the Maintenance Yard:
Develop an appealing landscape buffer to effectively screen the maintenance yard, improving the aesthetic appeal and minimizing visual impact on the surrounding environment.

Examples of Habitat Management Area

Examples of Bioretention and Rain Garden Plantings

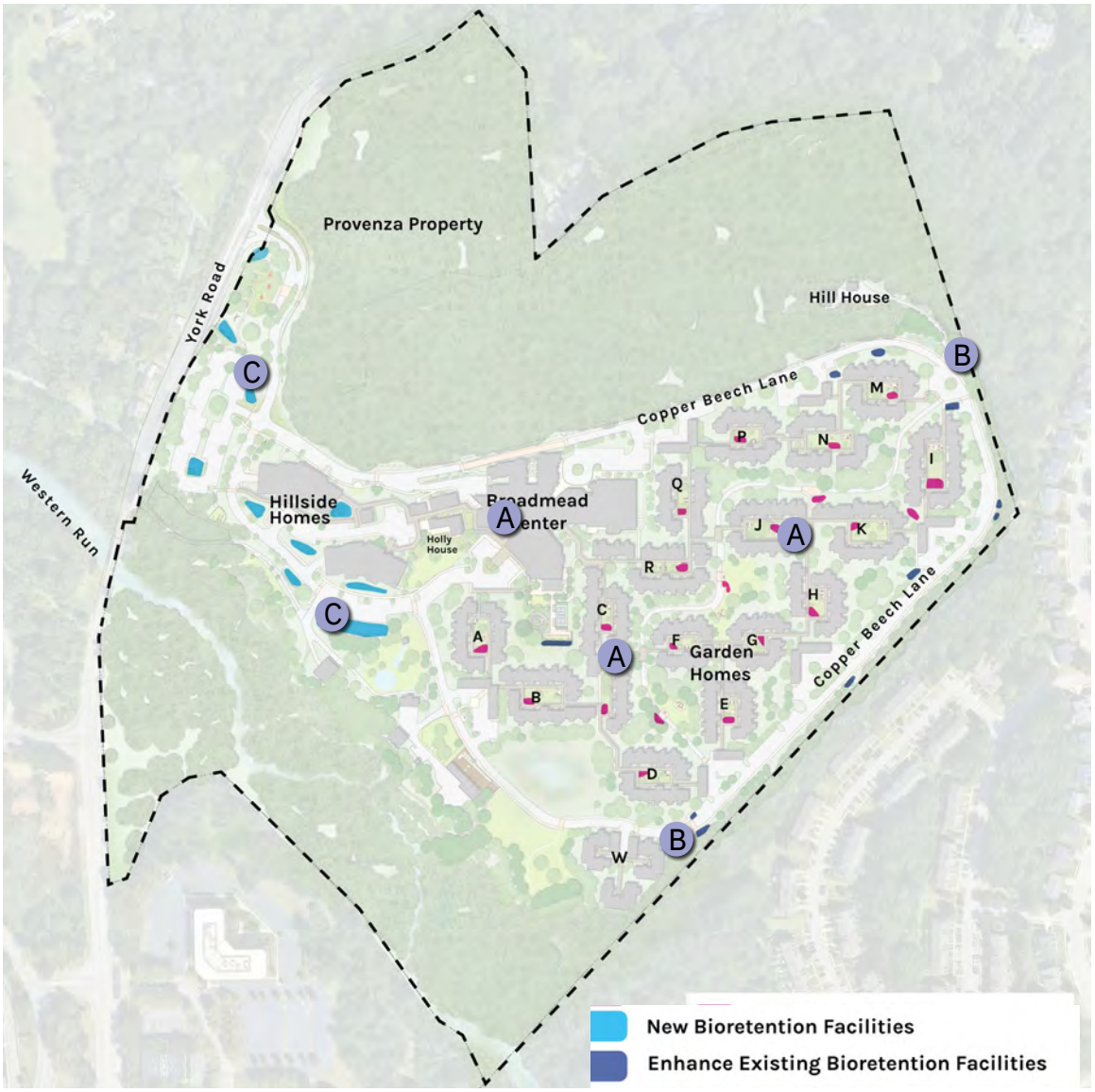
9. DEVELOP AN INTEGRATED LANDSCAPE AND STORMWATER MANAGEMENT STRATEGY

Create a cohesive strategy that seamlessly integrates landscape design with stormwater management to enhance the aesthetic appeal of the campus while effectively treating runoff water. This approach will ensure that environmental sustainability and visual beauty go hand in hand. See diagram on the following page for locations of recommendations.

A. Introduce Rain Gardens to Garden Homes Courtyards:
Incorporate rain gardens within the courtyards of Garden Homes clusters to naturally manage stormwater and enhance the beauty and functionality of these communal spaces.

B. Integrate Storm Water Management Best Practices with Site Improvements:
Use best management practices, such as micro-bioretention facilities, tree box filters, and other water quality filter systems to manage surface runoff from new hardscapes.

C. Enhance Planting of Existing Bioretention Planters:
Diversify the plant types by adding a variety of everegreen and deciduous woody shrubs in the existing bioretention planters to improve their ecological function, aesthetic contribution and simplify on-going maintenance.



Bioretention and Rain Garden Enhancement Opportunities

Inkberry Holly

Virginia Sweetspire

SUGGESTED SHRUBS AND PERENNIALS FOR EXISTING BIORETENTION PLANTERS

The following list of woody shrubs are suggested to add four-season structure and interest while improving the ecological function and aesthetics of the existing bioretention planters. It is recommended to choose a mix of evergreen and deciduous shrubs of varying size, to plant 50% or more of the facility with shrubs and plant in groupings or masses (depending on plant size) of the same plant rather than as individual shrubs for the most impact. While the plants listed below are known generally to be deer resistant, it may be necessary to provide deer protection when the plants are young and tender to allow time for good establishment and initial growth of woody stems.

EVERGREEN DEER RESISTANT NATIVE SHRUBS

Inkberry Holly - Ilex glabra

Northern Bayberry - Morella pensylvanica
(male and female plants required for fruiting)

Southern Waxmyrtle – Myrica cerifera
(male and female plants required for fruiting)

DECIDUOUS DEER RESISTANT NATIVE SHRUBS

Red Twig Dogwood – Cornus sericea
(twig colors vary ie. Arctic Fire Red, Arctic Fire Yellow, Arctic Sun)

Arrowood Viburnum – Viburnum dentatum

Maple-leaved Viburnum – Viburnum acerifolium

Witherod or Possumhaw- Viburnum – Viburnum nudum

Summersweet – Clethra alnifolia

Large Fothergilla – Fothergilla major

Dwarf Fothergilla – Forthergilla gardenia

Virginia Sweetspire – Itea virginica

Winterberry – Ilex verticillata
(male and female plants required for fruiting)

Elderberry – Sambucus canadensis

Spicebush – Lindera bezoin

IMPLEMENTATION

Based on the strategies and recommendations described in the previous chapter, the following implementation matrix identifies priorities and relate scale for each recommendation.

GOAL	STRATEGIES	RECOMMENDATIONS	PRIORITY (Low, Medium, High)	SCALE-BUDGET (Low, Medium, High)	TARGET FISCAL YEAR IMPLEMENTATION
ENHANCE and SUSTAIN SENSE OF COMMUNITY	1. Revitalize and Expand Seating Areas within campus	A. Enhance existing seating areas to improve accessible social interactions: along Copper Beech Lane, shuttle bus drop-offs and at trailheads	Medium	Medium	FY28
		B. Locate seating areas along fire lane with views of interior shady lawns	Medium	Medium	FY28
	2. Enhance the Holly House		High	High	FY25 - FY26
	3. Enhance and Activate the Central Gathering Space	A. Integrate dining and lounge area with three-season dining room addition	Medium	High	FY27 - 28
		B. Improve surrounding landscape and outdoor amenities	Medium	High	FY27 - 28
	4. Maintain and Improve Existing Campus Amenities near the Western Run	A. Maintain and upgrade the dog park experience	Low	Medium	FY28
		B. Enhance the community garden experience, including Improved fencing and shade structures	Medium	Medium	FY28
		C. Improve sense of enclosure around the spring house and pool	Medium	Low	FY26
		D. Preserve and reprogram Barn	Low	High	FY27 (preserve) FY34 (reprogram)
	5. Enhance the Garden Home's Courtyards and Open Spaces	A. Introduce accessible seating areas within Garden Homes courtyard and landscape improvements	High	Medium	FY26
	6. Introduce site art and sculpture to celebrate nature and community	A. Develop art-oriented meadow at York Road entrance	Low	Medium	FY29
		B. Integrate art throughout campus to enhance sense of community and nature	Low	Medium	FY29
GOAL	**STRATEGIES**	**RECOMMENDATIONS**	**PRIORITY (Low, Medium, High)**	**SCALE-BUDGET (Low, Medium, High)**	**TARGET FISCAL YEAR IMPLEMENTATION**
CHERISH AND IMPROVE THE CONNECTION TO NATURE	1. Improve connection to Western Run	A. Construct a boardwalk with seating areas	High	High	FY29
		B. Improve Paw Paw Path	Low	Medium	FY27
	2. Improve connection to the Upland Forest	A. Enhance trail access and activate the Summer House	Low	Medium	FY30
		B. Develop accesible trail from Provenza Property	Low	High	FY30
	3. Implement a trail maintenance plan to stabilize trails and reduce erosion		Medium	Low (On-going)	FY26
	4. Transform campus into an arboretum and bird sanctuary	A. Include plants to promote seasonal variation and attract birds and pollinators in Garden Homes clusters.	Medium	Low[2] (On-Going)	FY26
		B. Transform campus into an arboretum	Medium	Low[2] (On-Going)	FY25
	5. Develop a branded signage plan to educate and promote stewardship		On-Going	Medium[3]	FY26

Proposed developments at Broadmead over 5,000 s.f. of disturbance requires plans review and permit processing through Baltimore County. Projects located in the floodplain and environment easements will require additional review from public agencies:

- Proposed work within the floodplain area will require review and approval by SHA, Baltimore County DEPS, and/or MDE.
- Proposed modifications to the Forest Conservation Easement will require review and approval by Baltimore County DEPS.

GOAL	STRATEGIES	RECOMMENDATIONS	PRIORITY (Low, Medium, High)	SCALE-BUDGET (Low, Medium, High)	TARGET FISCAL YEAR IMPLEMENTATION
EXPAND SAFE ACCESS FOR ALL RESIDENTS	1. Improve pedestrian access within the campus core and to site amenities	A. Extend covered walkway to employee parking lot from Broadmead Center.	Low	High	FY32
		B. Enhance the gravel pathway adjacent to the spring house and pool.	Medium	Medium	FY26
		C. Create a durable pathway from Copper Beach Lane to art-focused park.	Low	Medium	FY30
		D. Extend sidewalks to York Road, to make connect to SHA bridge expansion with sidewalks.	Low	Low	Only if / when SHA replaces bridge and includes sidewalk
	2. Enhance intersection safety with visible crosswalks and traffic calming (multiple locations)		High	High	FY26
	3.Develop Pedetrian-Priority (Yield) Streets	A. Copper Beech Lane Improvements	High	High	FY26-28
		B. Fire Lane Improvements	Low	High	FY26-28
	4. Complete the Copper Beech Lane Perimeter Sidewalk Loop		High	High	FY26-28
	5. Balance parking and service needs		Medium	Medium	FY26
			Medium	Low	FY26
GOAL	STRATEGIES	RECOMMENDATIONS	PRIORITY (Low, Medium, High)	SCALE-BUDGET (Low, Medium, High)	TARGET FISCAL YEAR IMPLEMENTATION
TRANSITION THE LANDSCAPE TO A SUSTAINABLE FUTURE	1. Cultivate strategic enivornmental partnerships with on-campus and off-campus organizations		High	On-Going	FY25 - 26
	2. Support and expand native pollinator habitat (multiple locations)		High	Low[2] (On-Going)	FY25 - 27
	3. Expand meadow and / or Limited mow Areas		Medium	Medium	FY26
	4. Implement a comprehensive tree planting strategy within developed portion of campus	A. Residential Areas (multiple locations)	Medium	Low	FY25 - 26
		B. Successional Buffer Plantings	High	Low	FY26 - 27
	5 Develop a holistic forest habitat maintenance plan for Upland Woods	A. Invasive species removal and erosion control measures	High	Low[1]	Ongoing
		B. Plant canopy and understory trees, shrubs and ground cover plants	High	Low[1]	FY25 - 26
		C. Create deer fencing enclosures along with other mitigation measures	High	Medium[1]	FY26 - 27
		D. Plant flowering understory shrubs along top of retaining wall.	HIgh	Medium	FY25 - 26
	6. Expand and restore forest habitat along the Western Run.	A. Establish a demonstration habitat managmeent plan area	Medium	Low[1]	FY26 - 27
		B. Coordinate tree planting and invasive plant removal (with GVC)	High	Low[1]	FY25 - 26
		C. Partner with SHA for invasive plant removal and wetladn restoration	High	Low[1]	FY25 - 26
		D. Introduce a landscape bufffer to screen maintenance yard	Low	Low[1]	FY25 - 26
	7. Develop an integrated landscape and stormwater management strategy	A. Introduce rain gardens within the Garden Homes courtyards	Low	Medium	FY25 - 27
		B. Integrate stormwater management best practices with future site improvements	High	High	Ongoing
		C. Enhance planting of existing bioretention planters.	High	Medium	FY25 - 26

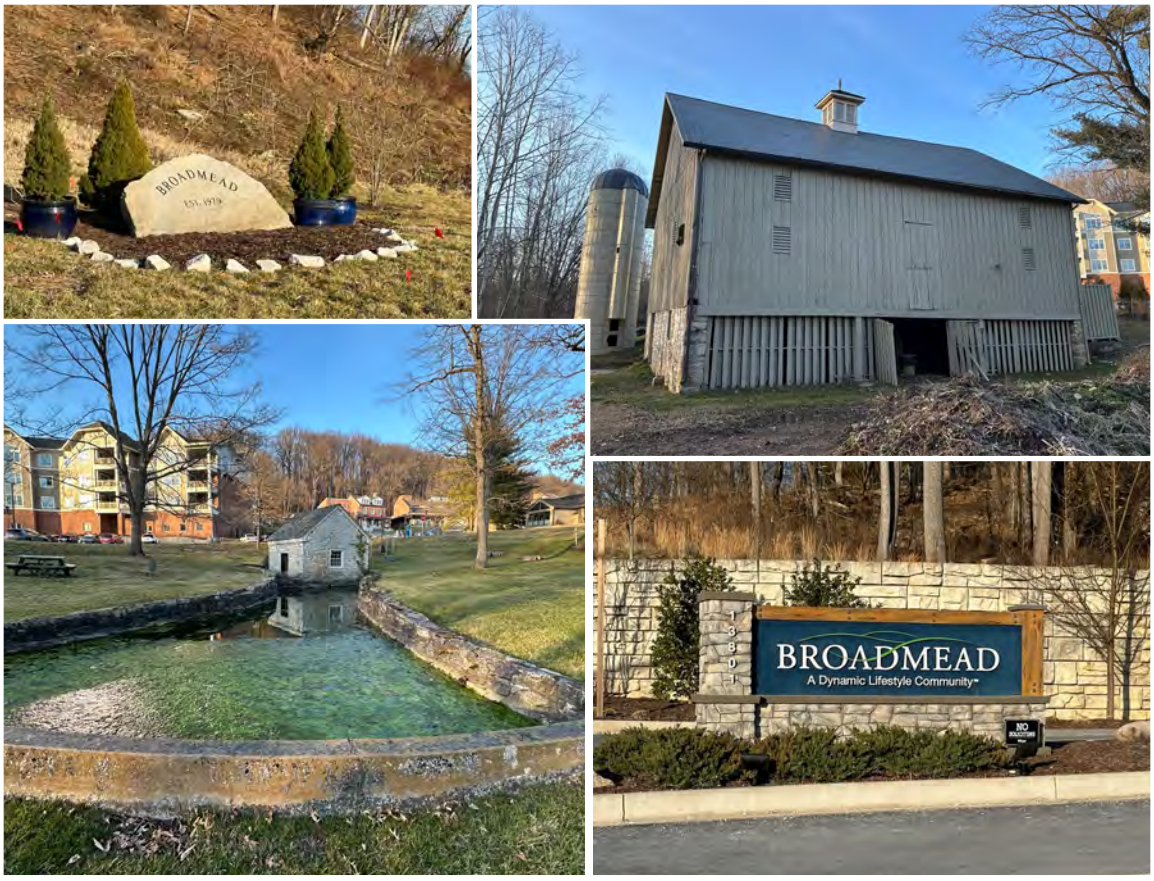
Notes: [1] Assumes partnerships to help offset the scope and cost of projects
[2] Assumes project done in association with other planting projects
[3] Assumes signage opportunities will occur in coordination with other campus improvement projects

SUSTAINABLE SITE DESIGN AND MANAGEMENT BEST PRACTICES

The following site best practices are designed to supplement and support the vision of this campus master plan and the goals of the *Community Sustainability Plan*:

- **Prioritize use of native and adapted plant material to reduce site water needs. Select plant species that support bird and pollinator habitat.**
- **Identify the ideal locations and implement rooftop rainwater capture and storage systems to be used for irrigation.**
- **Utilize organic soil amendments (ie, compost) in lieu of inorganic fertilizers to improve campus soil health and help store carbon in the ground, reducing atmospheric carbon accomulation that contributes to global warming. Periodically sample soil conditions to determine soil needs.**
- **Develop or expand composting program for landscape waste materials.**
- **Reduce or eliminate the use of inorganic pesticides and herbicides, where possible.**
- **Utilize snow melt products that minimize environmental impacts and damage to paving surfaces.**
- **Explore converting to electric / battery powered landscape equipment (ie, mowers and blowers) and service vehicles.**
- **Consider the full life cycle costs of all site materials and products with an emphasis on recycled, repurposed, recyclable and reduced embodied carbon components.**
- **Prioritize locally sourced site and landscape materials.**
- **Explore permeable paving or reducing the quantity of impervious surfaces on campus.**
- **Where needed upgrade existing site lighting fixtures with energy efficient LED lamps and install Dark Skies Compliant light fixtures to reduce environmental light pollution.**
- **Promote sustainability awareness and education. Incorporate educational signage with key campus improvements to showcase environmental stewardship.**
- **Continue to add electric charging stations on campus, particularly near the Garden Homes.**
- **Evaluate and strategically expand campus shuttle services to improve convenient access to places that support the daily needs of residents as well as enhance employee access to the campus.**

SITE DESIGN GUIDELINES



Rustic Character at Broadmead

The intent of site design guidelines is to develop a palette of materials that define space, foster a sense of identity and cultivate a sense of place. Broadmead residents have a very strong connection with their rural landscape aesthetic. To reinforce that rural aesthetic it is recommended to take cues from the existing landscape and prioritize the use of local, vernacular materials with simple construction details and natural color palette. Examples include stone veneer or dry laid stone walls, boulders, bluestone and brick paving and wood split rail fences. When these materials are not practical or affordable, other materials with a similar aesthetic, detailing and color palette can be specified while maintaining the integrity of the design intent.

PAVING AND HARDSCAPE

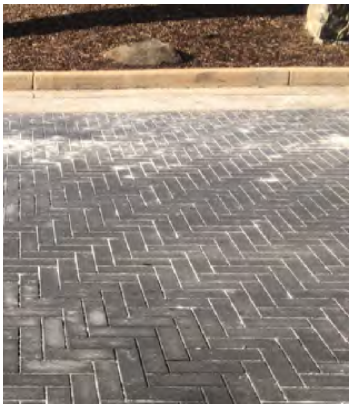
An existing cohesive network of walks, patios, courtyards, and entrances enhances the campus environment, reinforces its identity, prioritizes human comfort, social interaction, and accessibility, all of which are aspects of successful placemaking. Currently, the campus has a wide range of paving materials, including multi-colored red brick, bluestone, gray concrete masonry pavers, crushed stone, as well as the more common scored concrete walkways and asphalt roadways. To reinforce the cohesiveness and foster a more clear identity of space it is recommended to establish paving standards and minimize the number of different paving materials and strategically use them to define types of space. This approach can help create a unified and harmonious visual aesthetic and reinforce placemaking. It is recommended that prior to renovating, replacing and/or proposing new paving projects the use and locations of the existing paving and any new paving types be evaluated for accessibility, durability, cost and cohesion with surrounding materials. Some ideas for paving standards include:

Views of Existing Paving and Hardscape

- **Replicate the Distinctive Scoring Pattern for New Walkways:** For new sidewalks and walkways, consider adopting the unique shorter scoring pattern found in the Garden Homes area to create a cohesive and visually appealing pedestrian experience.

- **Use Special Paving Materials to Define Key Public Spaces:** Reserve the use of special paving materials such as brick, bluestone, and/or concrete pavers to define key public gathering spaces, such as courtyard patios and amenity areas.

- **Use Special Paving Materials for Crosswalks and Traffic Calming:** Special paving materials such as concrete pavers can be used within roadways to delineate pedestrian crosswalks with a contrasting color or as a textured surface for traffic calming, enhancing both safety and aesthetics.

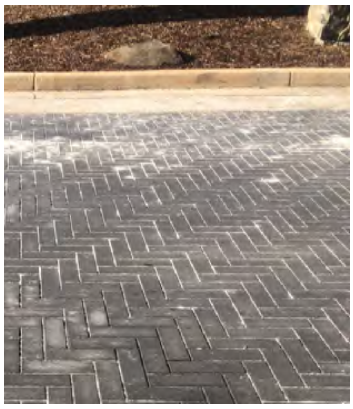


Example of Porous Pavers




- **Permeable Paving for Stormwater Management:** Consider permable paving options to manage stormwater, help mitiagate flood impacts and support overall campus resilience in the context of more frequent, significant rain events related to climate change.

- **Prioritize Recycled Content, High Solar Reflectance and Low Embodied Carbon Paving Materials:** When selecting paving materials consider the recycled content, solar reflectance and embodied carbon of the proposed materials/products and construction details. Minimize the use of concrete in paving sections when possible. Consider light colored pavers with high solar reflectance values to the maximum extent practicable to minimize the heat island effect, but also maintain comfort for residents with vision sensitivities.


Example of Porous Pavers

SITE WALLS AND FENCES

Broadmead features a diverse range of walls and fences throughout the campus. The type, style and color appear to be relatively project specific.contributing to a somewhat eclectic campus character. The most prominent walls are a light-colored segemental stone-look retaining wall with a dimensional, ledge stone stacked pattern at the entrance and a natural stone veneer in a random cobble stone pattern on the walls and piers at the Broadmead Center and on the Hillside Homes retaining walls. Red brick masonry defines the perimeter of the Broadmead Center dining patio, while a low, pinkish-grey segemental retaining wall is characteristic of the Garden Homes neighborhood. The wood three-rail split rail fence, a nod to the campus's horse farm heritage, is a prominent feature. For areas in the Cluster Homes requiring privacy, a vertical wood shadowbox fence panel with decorative fenestration along the top frame is typical. Chain link fence defines the perimeter of the Community Garden It is recommended to evaluate the various types of walls and fences used on campus and establish Site Wall and Fence standards to create a unified and harmonious visual aesthetic and reinforce placemaking qualities of the local, rural vernacular materials and construction types. Some ideas for Site Wall And Fence Standards include:

Views of Existing Walls and Fences

- **Design New Site Walls to Complement Existing Structures:** Consider designing new site walls to coordinate with the materials of adjacent buildings and surrounding landscape aesthetic. For example, consider the use of brick in the context of the historic Holly House and consider lighter-colored, random stacked stone veneer patterns for walls in the context of existing stone veneer walls, the barn and spring house, and in natural areas to reinforce the rural vernacular identity.

- **Incorporate the Spirit of the Split-Rail Fence in New Fencing:** Wood split-rail fence is used extensively throughout the Broadmead campus, reflecting the campus's heritage while creating a cohesive visual identity. Consider establishing this as the fence design standard and using it as the basis of design for other types of fences needed.

- **Use Solid Fencing Selectively for Privacy and Screening:** Reserve the use of solid fencing for areas requiring privacy or to screen service areas, ensuring that these fences serve their functional purpose without detracting from the overall campus aesthetics.

- **Enhance Metal Mesh Fencing with Wood Elements:** In areas highly visible to the public, such as around the community garden, incorporate wood framing and structural members into metal mesh fencing to soften the appearance and blend with the natural surroundings. If possible, avoid using chain link fence on campus and consider welded wire mesh products when a mesh infill is needed. Should chainlink fencing be used, consider painting it dark bronze or black to minimize the visual impact.

- **Deer Fencing:** Typically a minimum of 8'-0" ht mesh infill. Materials for the infill can vary including galvanized metal mesh, black metal mesh, heavy duty black plastic mesh. The mesh opening size can vary depending if intended to prevent small animals from passing through. Posts are often wood or metal and must be long enough to be embedded deep enough into the ground to provide stability and designed to anchor and support the mesh infill. The ideal design is such that there is minimal visual impact in the landscape. When deer fences will be installed in programmed campus spaces ie. the community garden more attention should be paid to designing the fence to contribute to the aesthetic quality of the space, as well as, providing the necessary function.

- **Prioritize Sustainably Sourced and Low Embodied Carbon Materials:** When designing new walls and fences consider the embodied carbon of the proposed materials and construction details. Minimize the use of concrete when possible. Consider FSC wood products, thermally modified wood products and/or bamboo.

Views of Existing Site Lighting

CAMPUS LIGHTING

Broadmead features a combination of functional and decorative site lighting fixtures. Dark metal poles and fixtures are used around the Hillside Homes, in parking lots, and along roadways. The decorative post-top fixtures provide downlighting with side cut-offs to minimize light trespass. Recessed lighting within covered walkway ceilings and square bollard lighting contribute to pedestrian-scaled illumination across the campus.

- **Establish Light Fixture Standards:** Consider establishing light fixture standards to streamline maintenance and reinforce a cohesive sense of place and identity. Standards can include (1) types of fixtures including pedestrian and vehicular pole lights, path lights, recessed ceiling lights, uplight and accent lights (2) light levels (3) types of light distribution (4) light type ie. LED. These standards can then be applied to types of space ie. walking paths versus amenity spaces. It is recommended that the existing fixtures installed on campus be evaluated for use as light fixture standards.

- **Conduct a Comprehensive Lighting Study:** Commission a lighting study to identify areas where additional lighting is needed, focusing on eliminating dark spots and overly bright areas ("hot spots") to enhance safety and comfort during evening pedestrian activities.

- **Implement LED and Dark Skies Compliant Lighting Fixtures:** Determine if existing light fixtures that do not use LED lights can be upgraded to LED and/or Dark Skies Compliant reflectors/shields. Specify all new lighting installations to use LED and Dark Skies compliant fixtures to reduce energy consumption, effectively control light distribution and minimize light spill.

- **Minimize Night Sky Light Pollution:** When using uplighting for site sculptures or building facades, ensure that these lights are turned off shortly after twilight to reduce light pollution and protect the night sky.

Views of Existing Site Furniture

SITE FURNISHINGS

Broadmead currently features a wide variety of site furnishings including benches, dining tables and chairs, rocking chairs, litter and recycling receptacles, and planters throughout the campus. The variety includes many different styles, materials and colors. Examples of benches include a traditional country style bench, characterized by vertical backrest slats, armrests and a 4-leg surface mount, a heavy duty concrete bench with polywood slats, embedded post mounted wood benches, among others. Materials include wood, poly-wood, metal and concrete.

As outlined in the previous sections, it is recommended to establish site furnishing standards, minimize the number of different site furnishing styles, colors and materials and strategically use the established standards to define types of space. This approach helps create a unified and harmonious visual aesthetic and reinforces placemaking.

- **Establish Site Furniture Standards:** Evaluate the existing site furniture on campus for how well it serves the community. For seating, considerations may include senior-specific design ie. seat height, armrests and level of back support, accessibility, stability and weight, durability, maintenance and flexibility. Other aesthetic aspects to consider in parallel with those mentioned above include style, material and color, and how well those aspects support the recommended focus on the rural vernacular design identity.

- **Key Site Furnishings To Types of Spaces:** Develop a palette of furnishings that relate to the variety of types of spaces on campus ie. dining tables and chairs and lounge seating outside of the dining room, trailside benches versus benches at shuttle stops, etc. Like the paving materials, coordinating the furniture type with the type of space helps to define and identify spaces and support placemaking.

- **Prioritize High-Quality, Durable Furnishings:** Select high-quality wood or polywood benches that complement the existing furnishings within developed and amenity areas on campus. Furniture selections should consider the unique needs of seniors including stability, armrests, seat height, weight of pieces, etc.

- **Expand Furniture Variety in Central Gathering Areas:** Enhance the outdoor dining areas at Broadmead Center by introducing additional seating experiences such as fire feature lounge area and vary the type of furniture in those spaces. Consider adding lounge furniture, additional rocking chairs and some smaller, moveable café table & chairs with umbrellas to offer a wider variety of seating options and ways to socialize.

- **Universal Access to Site Furnishings:** All site furnishings should be located such that they are accessible to all residents. Areas around site furnishings should include enough space for circulation and clear areas where folks on rollators or in wheelchairs can park and be included. For example, it is recommended that benches be offset back from the sidewalk far enough to allow room for mobility devices such as walkers. Paving pads shall extend beyond the width of the installed bench to accommodate residents in wheelchairs and on rollators to park beside and be included. In the case of site furnishings on trails, to the greatest extent possible, create a level ground area to set the bench and prioritize benches with appropriate seat height, backs and stable armrests for ease of use. It is recommened to minimize the use of picnic tables which can be challenging for many folks to access.

- **Prioritize Sustainably Sourced, Recycled Content and Low Embodied Carbon Products:** When selecting new site furnishings consider products with recycled and/or sustainably sourced components, low embodied carbon and the ability to be reclaimed and disassembled for parts re-use. Many site furnishing vendors now have Environmental Product Declarations (EPD) for their products posted on their websites.

Photo: Broadmead (Erroll Hay)

APPENDIX

- **Appendix III. BayScapes Program,** Maryland DNR
- **Bay-Wise Maryland Yardstick,** University of Maryland Extension
- **Native Plants for MidAtlantic United States,** Baltimore County Landscape Manual
- **Native Plants for Wildlife Habitat and Conservation Landscaping,** US Fish and Wildlife Service
- **Selecting Plants for Pollinators,** Pollinator Partnership and NAPPC
- **Rain Gardens Across Maryland,** Maryland Chesapeake Ecology Center

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