

March 12, 2021

Oakbourne Park Master Plan



Resolution

To be inserted.

Acknowledgements

The foresight, perseverance, and input provided by the following individuals during the planning process was vital in the shaping of this park master plan.

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Special Acknowledgements

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Preface



Rediscovering Oakbourne Park

Westtown Township residents have yet to know the full value of the hidden gem that lays before them. Oakbourne Park, by virtue of its character and history, is an exceptional and undervalued, albeit much loved, community treasure. Westtown Township aspires to build on the Park's noble past of the Oakbourne Mansion, and Water Tower, and begin transitioning into a more cohesive public park that acknowledges and preserves its beginnings.

Looking east from the Mansion's doorstep, park users can appreciate one of the most dramatic aspects of the site in the expansive view. Past the manicured lawn to the distant agricultural fields, this view gives the observer a sense of openness that is significant, as surrounding areas become more developed. However, the true significance is the historical aspect of this viewshed and understanding the relationship between the Mansion and park grounds. This preserved viewshed is an example of one of the primary design principles of The Country Place Era, a period of landscape design between 1890 and 1930. This landscape is a true representation of the extravagance associated with the industrial revolution, and thus should be considered a significant cultural and historical landscape.

Daring to Dream

Beyond protecting the park and responding to immediate needs, there is a higher value to which Oakbourne Park ought to aspire. Over years of budget challenges, citizens have become accustomed to limited funding resulting in residents expecting and even asking for less due to fiscal austerity. Instead of asking for the best of the public realm, they tend to accept the status quo. That has started to change in Westtown Township, and park advocates have successfully campaigned for more attention to Oakbourne Park as evident in undertaking this Plan.

In addition to protecting the Park, this Plan gives us the opportunity to think big and long term. During this time of heightened stress and anxiety, stay-at-home orders, and social distancing, the respite provided by simple things like a walk or run in the park has proven to be more important than ever. Park usage is up dramatically everywhere. The desire to improve quality of life through parks, recreation, trails, and open space can be considered a "movement." Municipalities nationwide have made major investments in their parks. These will be the first major improvements since the Oakbourne site was developed during the Country Place Era, the City Beautiful Movement, and the Playground Movement.

In this context, Township officials, community-based organizations, and citizens have taken time to examine Oakbourne Park as we see it today, and dream of an Oakbourne Park that could be. The opportunity to shape the future of Oakbourne Park calls upon Westtown Township officials to once again make an audacious decision to take the Park to its next level, as they did with their original bold decision to acquire the Park in 1974.

Moving from Present to Future

It is important to have a plan that is at once both aspirational and practical to implement. The Oakbourne Park Master Plan takes the position of transitioning from the status quo toward a far-reaching vision and mindset of establishing Oakbourne Park as one of Pennsylvania's most celebrated and unique parks. Public sentiment is clearly in favor of keeping the historic roots of Oakbourne Park. The responsibility of Township officials and management, community organizations, and citizens is to look to the future to protect and enhance Oakbourne Park, while offering reasonable public amenities that accommodate evolving recreational interests and use. Between these poles is a first step towards a revitalized and robust park, one that is appropriate for the level of current use and public expectation. The Plan changes are more than some are comfortable with, and does not change as much as others think is necessary. Public opinion favors familiarity. Vision favors change. The Plan divides the major issues and actions to address them into four themes:

- Preservation and Restoration
- Nature
- Recreation, Sports, and Programming
- Infrastructure

The first phase of improvements will be focused on the revitalization of the Park's Athletic Core, upgrading the well-used but tired facilities to more playable and comfortable for all visitors, from athletes to spectators and the families and friends who accompany them. Parking improvements, pedestrian and vehicular circulation improvements, permanent restrooms, additional

courts for pickleball and basketball, new play equipment, and beautification with landscaping will improve the overall visitor experience. In addition, the Township will explore new ways of managing and programming Oakbourne Park through collaboration and public/private partnerships. Subsequent phases will improve the Mansion Core area with new pavilions, a unique themed playground, permanent restrooms, outdoor plazas and overlooks of historic gardens, improved trails, and defined access points from adjacent neighborhoods. The Pond Core will include enhancements to rejuvenate the pond and the existing natural resources to create a separate respite within the existing woodlands to simply relax and enjoy nature. The Cope Tract will remain primarily as open space with the productive areas farmed, which will continue to represent the deep agricultural heritage of the area. Defined vehicular and pedestrian circulation routes will be developed to allow access to this underutilized area of the Park and provide safe pedestrian connectivity to the other core areas.

Conclusion

The Master Plan defines a new vision for Oakbourne Park in the 21st century as a *premier historic year-round recreation destination that welcomes and captivates residents and visitors with its heritage, beauty, and vast recreation opportunities.*

The Plan seeks to celebrate the cultural significance of the park while striking a balance between public uses related to active and passive recreation, natural resource protection, and the agricultural heritage of the area. The proposed recommendations address much needed infrastructure improvements to improve park user experiences and equip the Township with strategies to maintain the Park in a sustainable manner. Implementation efforts must not lose sight of the vision established for the Park. Design solutions should continue to respect the adjacent neighboring properties through thoughtful and creative design solutions. By adopting a creative, collaborative mindset and assembling a combination of public and private resources over time, Westtown Township can successfully implement the Park Master Plan, establishing Oakbourne Park as one of Pennsylvania's finest and most unique parks.



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Planning the Park



Introduction

The Master Plan will provide a site-specific “blueprint” for the Park that will guide future development activities. The planning process is designed to create a vision for the Park that harnesses the opportunities of the site while respecting the inherent site limitations. This process included five parts:

1. **Inventory and Assessment**

The analysis of the sites natural resources and existing features guided the development of the Plan. Members of the design team visited the Park throughout the planning process to evaluate the site characteristics and facilities, observe opportunities, and understand the impact on the surrounding land uses. Site Inventory and Analysis documents the findings of the inventory and assessment phase of the planning process.

2. **Public Participation**

To ensure that the design for the Park is community based, broad citizen input was critical to the planning process. Citizen input was gathered from five sources: the plan study committee (PSC), key person interviews, focus groups, public meetings, and a community input survey.

3. **Development of Conceptual Alternative Designs**

Conceptual alternative designs were developed for each of the core areas of Oakbourne Park. The alternatives presented approaches to addressing site goals, meeting user needs, and outlined potential improvements. Following the review of the alternative design concepts, each design was revised to address the feedback provided.

4. **Final Design**

The final design involved the preparation of detailed recommendations and improvements to the park sites, resource protection, interpretive considerations, and introduction of long-term strategies for sustainability of the park. Detailed cost estimates were also completed for each phase of work.

5. **Operations, Budget, and Management**

Park operations are the most significant lifetime cost of a park. This Plan includes recommendations for programs, staffing, and maintenance management. Park financing was explored with an emphasis on partnerships, creative management models, and alternative funding sources.

What is the Park Today?

Oakbourne Park is a community park, developed around the historic Oakbourne Mansion. The Oakbourne Mansion and its unique water tower are the centerpiece of the Park. Mansion is a popular rental venue for weddings and special events. Oakbourne Park has been developed to serve the active and passive recreation needs of Westtown Township residents. Facilities include a basketball court, two tennis courts, two soccer fields, a senior baseball field and a youth baseball field, playground, picnic pavilion, fire circle for scout use, community gardens, and walking trails. The portion of the park on the east side of South Concord Road, referred to as the Cope Tract, has leased agricultural fields, wooded natural areas, and walking trails. The Park is home to the popular annual Westtown Day celebration and other special events. Organized youth sports leagues (East Side Little League, West Chester United Soccer Club, etc.) and many scout groups use the facilities at Oakbourne Park.

Why Plan Oakbourne Park?

A low profile and limited resources may have saved the Park from intensive development but there is no assurance that this passive approach is guaranteed to continue unchallenged, nor that the absence of a plan will keep the Park safe, clean, and functional with the competition among other township services for funding and staff to sustain it. Absent a publicly supported, administratively adopted plan for its future, there is nothing but force of communal will to prevent the Park from being changed in a way that alters the very qualities that make it appealing. Without a plan, current and planned investments are in perpetual jeopardy. Likewise, without a plan, there is nothing in place to protect the Park from being smothered by good intentions to place unwanted facilities in inappropriate locations. This Plan is needed to assist in advocating for Oakbourne Park’s future - for the resources required to preserve its natural and cultural heritage and enhance its recreational potential. Without a plan to prepare it for the inevitability of increasing use and maintenance needs, there is currently no way for the Park to protect itself.

By undertaking this planning process, a plan of action can be outlined to guide future improvements in a manner to protect and preserve the site’s natural resources. Planning for enhancements, management, and operation of Oakbourne Park will enable the

Township to invest wisely, create partnerships, formulate policies, and develop an array of management methods that will make the best use of the budget and meeting maintenance needs.

Eight key issues in particular make current planning efforts for Oakbourne Park important:

1. Historical and cultural significance of the Park.
2. Preservation of natural resources.
3. Inadequate parking and vehicular access.
4. Lack of support facilities and infrastructure for Park areas.
5. Need for a phased capital approach for funding.
6. Aging facilities and infrastructure in need of upgrades and repairs.
7. Investigating opportunities for connectivity between various park areas and adjacent neighborhoods.
8. Provide facilities and amenities for aging population.

Purpose

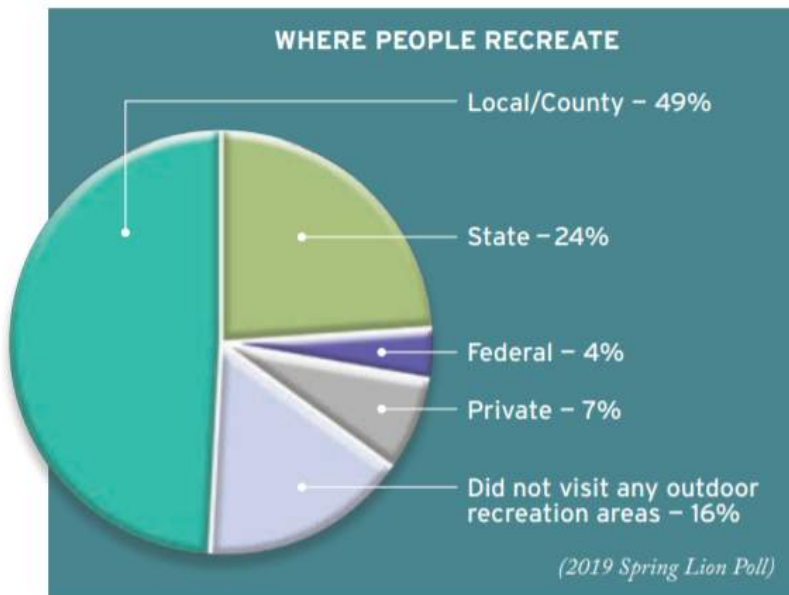
This Master Plan is not intended to serve as a design or engineering document. The Plan articulates the best way to configure the various spaces within Oakbourne Park. The Plan is presented graphically, with written strategies as to how best to implement the recommendations over the next ten years in a cost-effective and thoughtful manner. The focus of the planning effort was to:

- Define a clear vision for the Park.
- Undertake public participation as part of the park planning process to define resident recreation interests and needs.
- Recommend improvements necessary to bring the park into compliance with the Americans with Disabilities Act (ADA) where appropriate.
- Develop a master plan for the Park that illustrates the proposed recreation and support improvements and natural area enhancements.
- Define the future use of the Cope Tract, currently under agricultural lease.
- Unify the Park site and address the demarcation of the Gaudenzia House property.
- Determine maintenance and operations requirements for the improved park.
- Determine capital improvement costs and define a phased implementation plan for the proposed improvements.
- Address the park safety, infrastructure needs and deficiencies.
- Meet increased user need and enhance their experiences.
- Develop designs with considerations for the sites of historical and cultural significance.

Census Data

The following demographics were compiled from 2010 U.S. Census data for Westtown Township, Chester County, Pennsylvania, and generally reflects the state averages for suburban communities. As noted in both the recently completed Westtown Comprehensive Plan 2019 and the Pennsylvania Outdoor Recreation Plan 2014, Pennsylvania's population is aging. Since 2010 every county in the commonwealth had an increase in senior population over age 65. Westtown's senior population saw an increase of approximately 4% from 2010 to 2014, and is expected to continue rising. In 2030, baby boomers will all be at least 65 years old, and by 2035, people over 65 will outnumber children in the U.S. for the first time¹.

This is an important consideration that influences park design in ensuring that the needs of seniors are met. Both passive and active areas should consider equipment and facilities specifically geared towards seniors as well as multi-generational facilities that are convenient and accessible.



Nationally, of outdoor participants, 63 percent report they recreate within 10 miles of their home according to the Outdoor Foundation Report²

¹ 2020-2024 Pennsylvania Statewide Comprehensive Outdoor Recreation Plan. p27.

² 2020-2024 Pennsylvania Statewide Comprehensive Outdoor Recreation Plan. P32.

Population Statistics

2010 Population: 10,857

Persons under 5 years: 7.4%

Persons under 18 years: 23.8%

Persons 65 years and over: 15.4%

Gender

Female 53.1% and Male 46.9%

Race/Ethnicity

The racial makeup of the Township is now: 90.6 % White, 2.5% African American, 0.0% Native American, 4.5% Asian, 0.0% Pacific Islander, and 2.0% from two or more races. Hispanic or Latino of any race was 3.2% of the population.

Households and Housing

Persons per Household: 2.79

Owner Occupied Housing Units: 82.6%

Total Housing Units: 4,165

Socio-Economic Characteristics

Median Household Income: \$119,177

In Poverty: 3.1%

Public Participation

Site Inventory

- Park Bench
- Bridge
- Grills
- Restrooms
- Manhole Covers
- Storm Discharge
- Storm Inlet
- Cell Tower
- Fire Pit/Classroom
- Undefined Trail to Adjacent Property
- Trail System
- Sanitary Lines
- Baseball Field
- Soccer Field
- Tennis Court
- Hockey/Basketball
- Grass Parking
- Parking Lot
- Tax Parcels
- Building Footprint
- FEMA 100 Year Floodplain
- Park Limits



Mute Raise Hand Q&A Leave

Public Participation

The Park Plan was developed with an open and collaborative public engagement process. An array of outreach methods were used, including: an appointed study committee, public meetings and focus groups; key person interviews with key staff and representatives from park user groups; and an on-line survey. Public participation was a major influential component in shaping the park Master Plan. Much effort was expended to ensure that the recommended plan grew from a clear understanding of the community’s desires and support.

Public participation is important because:

1. Neighbors of the park, Township residents, municipal representatives, user groups, and community leaders have a local understanding and valuable information to contribute to the development of the Plan.
2. The public participation process provides a forum in which concerns and ideas can be identified, outlined, and addressed.
3. The process allows for public education and awareness of the park resources and intrinsic benefits.
4. Stewardship and trust are established through community interaction and involvement in the planning process.

Park Study Committee (PSC)

A clear process for solicitation of ideas, comments and concerns was critical to the success of the planning effort. A PSC was formed to help guide the master planning process and to work with the design team in developing the Plan. The PSC consisted of members of the Planning, Historical and Parks and Recreation Commissions, and Township residents. The PSC met five times during the planning process. The first PSC meeting occurred virtually on June 25, 2020 and was conducted to explore the goals, vision, and expectations. Prior to the meeting, the committee members were given a homework assignment to address the following three questions:

1. What are five things that you like or think work well in Oakbourne Park?
2. What are five things that you don’t like or could work better in Oakbourne Park?
3. If this park master plan could accomplish one thing, what would you want that to be?

The individual responses for questions one and two were categorized, grouped, and summarized in the following chart.

13 Responses – (frequency of response)

Like	Comment	Need to Address
Mansion & Historic Preservation (12)	Sense of pride. Restoration is beautiful. Rentals. Iconic building and landscape retaining original structure. Focal point. Availability of mansion for special events.	(1) Poor connections to neighborhoods. Lack of connectivity among park facilities. Better maintenance, especially in area east of S. Concord. Restore the stone wall and push back on encroachments. Continue restoration of mansion and water tower.
Trails (9)	2+ mile length. Walkable proximity to community. Access points to the park.	Pave the walking trail. Convert heavily used trails to asphalt for use and accessibility. Add trail markers on each side of S. Concord. Connect athletic field area to main park area via trails or access road. Address safety issues with park entrance and paths – road too narrow for two cars to pass. Erosion on paths cause ruts. Trail head at Oakbourne Rd. and South Concord is dangerous and needs stop signs. Concern about pesticide use on gravel paths used by dogs and people in flip flops.

Like	Comment	Need to Address
Beauty and Feel of the Park (8)	Natural feel with woodlands and trails. Family friendly. Preservation of open space. Beautiful grounds. Beautiful especially in front with landscaping and social trees. Peaceful and non-hectic atmosphere. Beautiful grounds, planting, arboretum. Trees and natural areas are beautiful. Park's rustic nature lends itself to feeling of peace and serenity. Combination of mansion, garden, arboretum, and trails is unique: a real treasure.	Remove invasives.
Community garden (5)	Vegetable plots.	
Sports fields and courts (4)	Diversity of recreational activities. Separation of active and non-active recreation areas. Sports and tennis courts areas are separate from rest of the park. Athletic field use for youth sports brings the community to the park. Use of recreational areas (basketball, baseball, tennis, and multi-purpose fields).	Athletic fields are just okay. Renovation of basketball court is priority – add fencing to prevent ball rolling to street. Add fields and courts as needed by sports groups.
Play and Events (4)	Playground. Pavilion. Outdoor Events.	Improve playground (3). Add more special events. Offer programs for groups other than families with children. Add a dog park.
Open Space (3)	Farming area. Preservation of open space here.	
Support Facilities	Parking: rated adequate to plenty.	Parking is rough. Improve parking. Need restrooms (4). Need signage and wayfinding and interpretative system and neon sign is out of character (5).
Single Topics		
Friends of Oakbourne	Maintain plants and trees to beautify grounds.	
Location		
Pond		
		Overall: Make more efficient use of property.
		Restoration of the fountain is of keen interest.
		Support funding and maintenance.

The individual responses for question three were categorized, grouped, and summarized in the following statements.

- **Vision and Plan**

- Clearly **articulated long term vision/strategy** for creating and maintaining a community oriented public space for family enjoyment & the celebration of public events.
- Provide an **overall plan to best utilize the Park** for recreational/ athletic use by the community without compromising the uniqueness of having such a well-preserved open space estate that mostly remains as it stood when the Smith/Drexel family lived there.
- Ensure that the **bucolic nature of the Park is maintained** and improved so that Westtown residents will always have a beautiful and peaceful area to go to in order to escape the hustle and bustle of everyday life. Do not "over improve" the Park, so that its current unique nature is not lessened or destroyed.
- **More definition for every portion of the Park with connectivity.**

- **Use**
 - **Access** so residents can get in and out easily.
 - Improve Park for all uses - recreation, passive and open space preservation, so all of community can utilize to its fullest.
 - **The Park is under-utilized by community**, as compared to East Goshen, West Goshen, and other local parks.
 - **Increase the number of residents of Westtown who regularly use** the park and see it as an asset to the township.
- **Pathways**
 - Pave the **gravel paths** where appropriate so that it would work better for runners, families with strollers, and kids on bikes. It would help to draw many more visitors.
- **Support**
 - **To organize a holistic community of stewardship** (Township, Friends of Oakbourne, and others) with a secure stream of funding that will maintain, and rehabilitate when necessary, the grounds and structures in order to continue to provide an historic and peaceful protected green space for citizens to gather for events, education, activity, and respite with a conservation easement (if not already in place) to protect from future development.
- **Specifics**
 - We should try to **make those dump sites into spaces that work** for the Park. The upper site could be made into a wild meadow which bring in butterflies and beneficial bugs. The lower dump site could be used as a wet land and water flow area leading to the pond. This would dry up the paths and help water drain off.
 - I would love to see the **fountain to be restored and functional**.

PSC meeting 2 was held on August 11, 2020 to review the findings of the site analyzes, key person interviews, and focus group meetings. Committee members were tasked with visiting the park and completing a short evaluation to assist the design team in further understanding the individual and group perspectives regarding the park. A summary of the evaluation can be found in Appendix B. The group explored opportunities, potential park uses, types of facilities, concerns, and issues relating to redevelopment and expansion of the Park. Subsequent meetings were held to discuss site opportunities / limitations and constraints, programming, design alternatives and the final recommendations. Input provided regarding creation of the Park was summarized in the project meeting minutes included in Appendix L.

Key Person Interviews and Focus Group Meetings

The consulting team conducted series of key person interviews to obtain input regarding the redevelopment and expansion potential of the Park. Information was gathered about historical and existing details about the property, potential park uses and facilities, recreation trends, and immediate and long-term needs for specific and general recreation opportunities within each area. Over twenty key person interviews were conducted with members of organizations who have an interest and/or insight into the recreation needs of the area or particular interest regarding the park as defined by the PSC. Interviews were conducted by phone and also included daily park users encountered during site visits, adjacent residents, members of the Westtown Community Garden, members of the Oakbourne basketball league, local scout troops, West Chester Area School District (WCASD) athletic director and cross-country coach, local farmer, and Township staff including the Manager, Public Works Supervisor, Parks Coordinator, and Supervisors.

The following selected quotes from the key person interviews convey the various opinions and perspectives regarding the existing park.

Come back with something aspirational the best it can be.

Cope Tract – should it be meadow, park, or farm?

The parking areas do not need to be formalized.

Children's playground is not sufficient, ordering more playground is not the answer.

Don't urbanize the park.

I personally feel that the Park should stay the way it is. As a place to walk, sit and enjoy nature. especially as Oakbourne now has a designated arboretum.

If we take the 15.5 acres currently farmed out of production, how much food do we take off the table?

Improve, don't move.

What if this was a clean slate? What should it be?

No lights.

People are not enjoying the spaces around the mansion. It's like there is an invisible dog fence around it.

The basketball court sucks, but it is the closest one to the High School.

Don't make it East Goshen.

There are never enough fields in this area.

Township does a good job of managing various user groups.

Develop a realistic plan that puts the emphasis on improvements to existing facilities.

Focus group meetings were conducted with both the Friends of Oakbourne (FoO) and Westtown Township Historic Commission. A sports group forum was not able to be convened, so the design team developed a questionnaire that was distributed to the various sports groups who use the Park, so that they could provide input and feedback regarding development of the park.

The key person interviews, focus group meetings, and discussions with the PSC revealed the following common themes, weaknesses, and strengths and opportunities:

Common Themes

1. Connect people to the past by reclaiming forgotten landscapes.
2. Develop a park for everyone that is truly unique.
3. Do not overdevelop the park.
4. Develop a natural playground.
5. Provide "real" restrooms.
6. Connectivity.
7. Address parking needs.
8. Address infrastructure needs.

Historical Themes

1. The Mansion is the centerpiece, but what happened before and what happen after are also important.
2. This historic nature of the entire site should be celebrated.
3. The major theme is the country estate.
4. Retain the natural and historic character of the place.
5. Enhance landscaping to be reflective of the original estate including garden enhancements.
6. Bring back the pond.

Park Weaknesses

1. The number of easements, covenants and restrictions that are conveyed with the individual parcels.
2. The site is bisected by Guadenzia.
3. The Cope Track is not seen as a park.
4. The grounds do not support the elegance of the Mansion.
5. There is not enough parking to support functions and events at the Mansion.

Strengths and Opportunities

1. Mansion is an amazing asset.
2. Existing barn foundation at basketball court and historic interpretation role.
3. Tranquil, natural, and serene.
4. Must consider and map dedicated easements from the surrounding neighborhoods to the Park.
5. Integration of the Cope Tract into the overall vision for the Park.
6. Community Garden.
7. Arboretum.
8. Everything is in one park here. Lots of open space and nature preserves in the area.

Board of Supervisors Work Session

An update on the planning process, preliminary designs and recommendations were presented to the Board of Supervisors on November 2, 2020 prior to the second Community Meeting held on November 10, 2020. This Master Plan reflects the direction to address the issues and concerns identified.

The following comments were noted and considered in finalizing the plan.

1. Look for more opportunities for multi-generational play and adult fitness.
2. Consider a secondary playground (tot lot) for the athletic core.
3. Expand the meadow areas to visually connect the various areas of the park.

Community Input Survey

Purpose:

To obtain public opinion about Oakbourne Park regarding facilities, programs, and level of support for future improvements.

Process:

The Township issued an online survey between October of 2020 through January of 2021. The Plan Study Committee (PSC) worked with the consulting team to formulate questions and considerations that would be important for the community to provide their ideas on. Township staff worked on promoting the questionnaire through the Township website and various social media platforms. The PSC members also promoted the survey on social media platforms that they use such as Facebook and NextDoor.

Results:

The survey generated more than 12,000 points of information from 601 respondents.

Findings:

- 92% of the respondents live in Westtown Township.
- Only 1% of the respondents live more than 15 minutes from the Park. About half could get to the Park by walking or cycling in fewer than 15 minutes.
- 97% indicated that they use the Park. Those who do not use the Park reported thinking it is important in the community.
- Most of the respondents were in the 35-64 age group and appear to be households with children. About 22% were senior citizens.
- Most respondents reported that nothing prevents them from using the Park, but those who did cited that there is nothing of interest, poor quality facilities, and not knowing what is there as barriers to their use.
- To gauge the scale of improvements, respondents indicated that they wanted to make moderate to major repairs as opposed to minor or basic repairs.
- The most used facilities are the trails, general park use, and the playground.
- Improvements they would most like to see include preserving the historic aspects of the Park, adding permanent restrooms, and providing more recreational, educational, and cultural programs in the Mansion.
- Special events, nature, and fitness were the types of programs that respondents most wanted to be present in the Park.
- Families, children 5-12 years of age, and seniors were the groups most in need of recreational programs and opportunities.

The most common way that respondents get information about the Park is from the Township website, the Township newsletter and email. In the future, more would like to get information via email.

See Appendix C for complete survey results.

Community Meetings

The first public meeting occurred on September 15, 2020 via Zoom webinar and had a total of 64 attendees. The design team provided an overview of the Park and reviewed the planning process. The design team also shared information about the existing conditions and limitations and gathered feedback from the meeting participants on their interests.

The second public meeting occurred on November 10, 2020 via Zoom with total attendance of 24. The design team revealed the preliminary survey results and presented concept design plans for the development of the Park.

The meeting presentations, recorded meetings, and provided comments are posted on the Township's website:

[Oakbourne Park Master Plan Community Input Meeting No. 1 – Presentation
Provided Questions and Comments \(09-15-2020\)
Meeting No. 1 Recording](#)

[Oakbourne Park Master Plan Community Input Meeting No. 2 – Presentation
Community Meeting No.2 Questions and Comments \(2020-11-10\)
Meeting No. 2 Recording](#)

Vision, Mission, and Goals for Oakbourne Park

The input from the public participation process was translated into a vision, mission statement, and specific goals for the Park that should carry through in all aspects of development and implementation of the Master Plan recommendations.

Vision:

Oakbourne Park is a premier historic year-round recreation destination that welcomes and captivates residents and visitors. The Park with its heritage, beauty, and recreation opportunities are part of daily life in our community and shapes the character of Westtown Township. Historical, natural, and recreational resources cultivate outstanding experiences, health, enjoyment, fun, and learning for all people. Oakbourne Park is sustainable, well-maintained, safe, and meets the needs of individuals, families, and community organizations. The focus on preserving our history and our open space continues through the Park, with a strong emphasis on connecting people to our public lands and each other. Aware of its value to their lives, residents are proud stewards and supporters of an extraordinary park.

Mission:

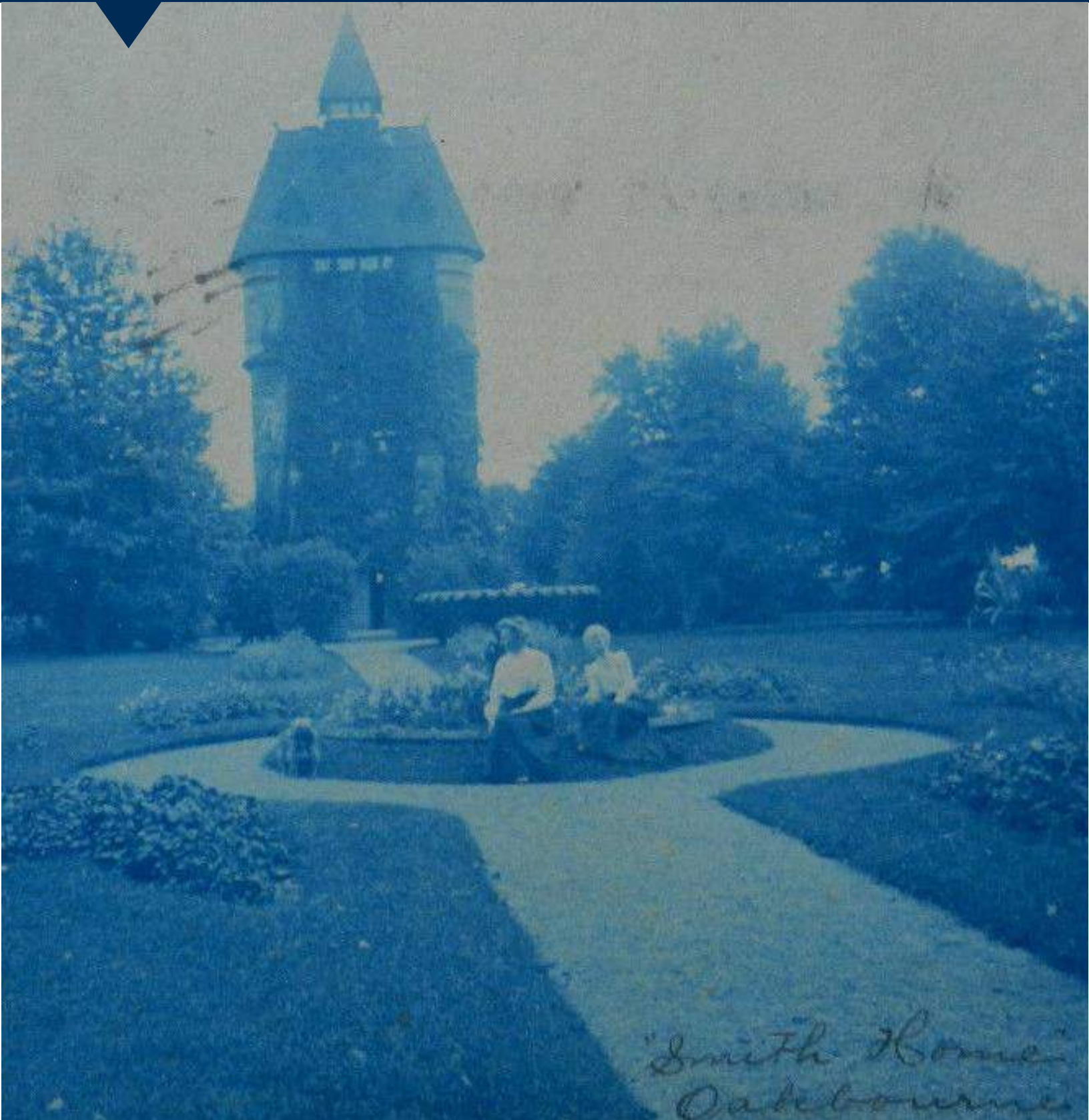
Westtown Township will operate the Park as a model regional destination through a mix of public and private support, effective and efficient maintenance methods, innovative management, and outstanding customer services. Our first goal is to focus on public recreation needs that spur park revitalization in a way to preserve our heritage and attract people of all ages to want to spend their time enjoying the park.

Goals:

1. Create a practical, achievable yet visionary action plan for park revitalization and programming.
2. Preserve and celebrate our cultural heritage.
3. Preserve our agricultural heritage.
4. Preserve the historic cultural landscape of the Mansion.
5. Provide recreation opportunities that inspire healthy lifestyles, personal growth, family bonding, social connections, and a sense of community.
6. Offer community and special events to proactively build social ties among people of all ages, abilities, and backgrounds.
7. Provide facilities that are welcoming, accessible, attractive, and safe by design.
8. Update infrastructure needs.

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Site Inventory and Analysis



*"Smith Home"
Oakbourne*

Introduction

An extensive inventory and analysis of the site was completed to gain an understanding of the site's natural resources and relationship to the historic mansion.

The development of the Master Plan was guided by the analysis of the significance of the historic homestead, existing site conditions, review of the site's natural and man-made resources, existing facilities usage, consideration of the surrounding land uses, and the assessment of the recreation needs in the community.

Site visits were conducted to evaluate the site characteristics, observe the site's relationship to the surrounding properties, and identify site opportunities and constraints. The findings of the inventory and assessment phase of the planning process is documented below but is not intended to be used in the preparation of any detailed site plans or construction documents. No structural assessments, survey, wetland, forest or habitat delineations, testing, or in-depth study was completed by team members.

Park Location

Oakbourne Park is located within a heavily suburbanized area of eastern Chester County, Pennsylvania. The Park is situated less than one mile southeast of West Chester and approximately 16 miles west of Philadelphia and is surrounded by single family residential homes.

The property consists of approximately 148.3 acres, comprised of several parcels that are generally defined and considered as three separate areas.

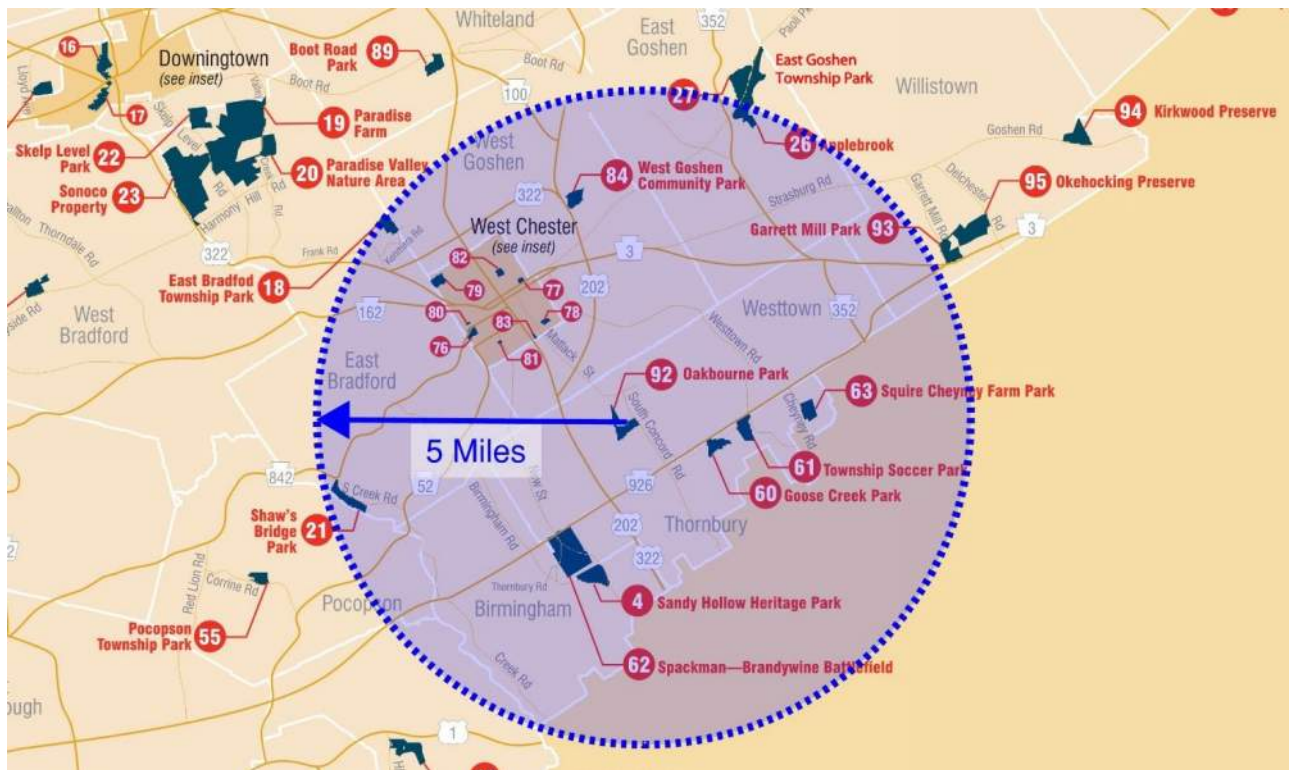
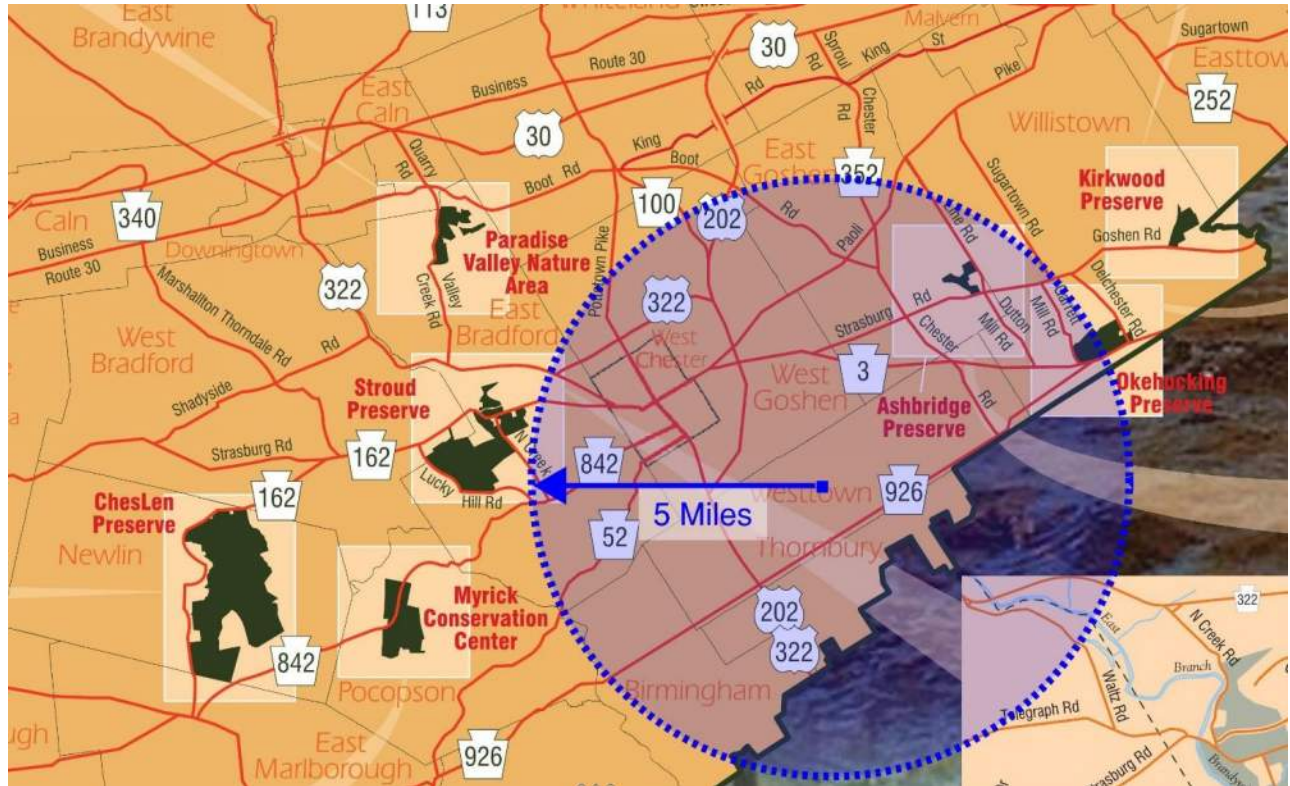
Area 1 - Oakbourne Park and Arboretum: 1014 S. Concord Road, West Chester 19382

Area 2 - Oakbourne Park Athletic Complex: 500 E. Pleasant Grove Road, West Chester 19382

Area 3 - The area east of S. Concord Road commonly referred to as the Cope Tract



Regionally the Park is located within an area filled with diverse recreational opportunities including many preserves, nature areas, heritage parks, and athletic complexes.



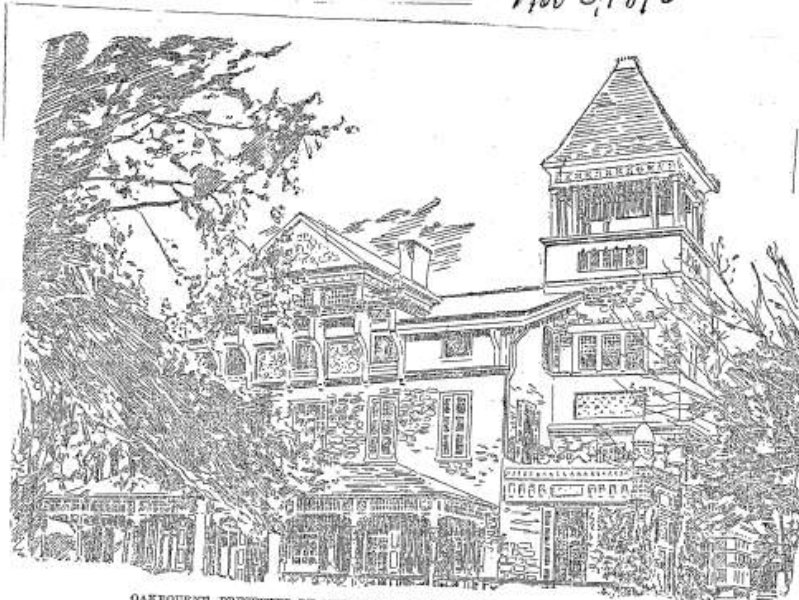
Site History

Concurrent with the park master planning process, Oakbourne Mansion was undergoing several improvements to stabilize and protect the existing structure. As a result, the Oakbourne Mansion was specifically excluded from the plan scope of work. However, upon the initial site visit by the design team, it was apparent the Mansion and Park were inter-connected and further research was necessary to understand this relationship. With background information provided by the Historical Commission on the history and architecture of Oakbourne Mansion (See Appendix A) and further research by the design team, it became evident that the Park can be considered an early example of a cultural landscape, representing a period in American Landscape History known as the Country Place Era, considered as the 40-year period between 1890 and 1930, following the industrial revolution. Those designs were focused on wealthy Americans who commissioned extensive gardens at their country estates.

Often these vast estates in the country were far away from the increasingly over-crowded urban centers and the design of these estates was a direct reflection of the affluence of the time. The views from and to the properties were often a key design principle.



Nov 3, 1895



OAKBOURNE, PRESENTED BY MRS. JAMES C. SMITH TO THE EPISCOPAL CITY MISSION.

OAKBOURNE AND ITS BEAUTIES.

The Gift of Mrs. James C. Smith to the Episcopal City Mission.

A MAGNIFICENT RETREAT.

Rumors of a Contest Over the Will of the Decedent—Valuables That Are Said to Have Disappeared.

treat for invalids under the care of this well-known institution of charity. For the purpose there is probably no place better adapted in this section of the State. Included in the bequest is the surrounding plot of ground, containing over thirty acres, which is laid out in fine drives and otherwise beautified in a manner only possible with the most artistic landscape gardener.

This property, then a veritable wilderness, was purchased by its late owner just thirteen years ago. Since that time the sum of \$25,000 has been expended in transforming it into its present state of magnificence. Shortly after Mr. Smith acquired this tract he christened it "Oakbourne," and this name was also adopted by the Philadelphia, Wilmington & Baltimore Railroad for the station nearby. All the highways in the immediate neighborhood were macadamized at the expense of "Oakbourne's" owner, and the taxpayers thus relieved to a great extent.

The massive palace, which stands on the highest point of ground in this part of the county, is built of a grayish stone

neighborhood. This huge tower is also of stone and is provided with the finest of glasses. From its lookout, the visitor may behold one of the prettiest scenes upon which the eye can feast. Far away to the southeast may be seen the city of Chester, while Philadelphia looms up in the distance to the east, skirted as it appears by the waters of the Delaware. The borough of Media is readily visible, as are also numerous little towns and villages in Delaware County. To the north lies the pretty borough of West Chester, with Downingtown and Coatesville away in the background.

The stables on the premises are in keeping with the other fine buildings, and contain eleven head of blooded horses and a number of fine coaches, all of which are bequeathed to the City Mission, and will consequently remain on the place. "Abdallah," a coach horse which had been in the possession of Mr. Smith for a period of a quarter of a century, and is 24 years old, is among the favored animals quartered in the stable.

The attractive grove north of the buildings contains perhaps fifteen acres, sloping gradually down into a romantic

Mrs. all by better Phila. devou was n

The Philade. James C. Chester.

To see im sion. a to be change

This property, then a veritable wilderness, was purchased by its late owner just thirteen years ago. Since that time the sum of \$225,000 has been expended in transforming it into its present state of magnificence. Shortly after Mr. Smith acquired this tract he christened it "Oakbourne," and this name was also adopted by the Philadelphia, Wilmington & Baltimore Railroad for the station nearby. All the highways in the immediate neighborhood were macadamized at the expense of "Oakbourne's" owner, and the taxpayers thus relieved to a great extent.

The massive palace, which stands on the highest point of ground in this part of the county, is built of a grayish stone, ... This huge tower is also of stone and is provided with the finest of glasses. From its lookout, the visitor may behold one of the prettiest scenes upon which the eye can feast. Far away to the southeast may be seen the city of Chester, while Philadelphia looms up in the distance to the east, skirted as it appears by the waters of the Delaware. The borough of Media is readily visible, as are also numerous little towns and villages in Delaware County. To the north lies the pretty borough of West Chester, with Downingtown and Coatesville away in the background.

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View from Rosemont Station, ca. 1905



Ormston Country Estate Design Plan

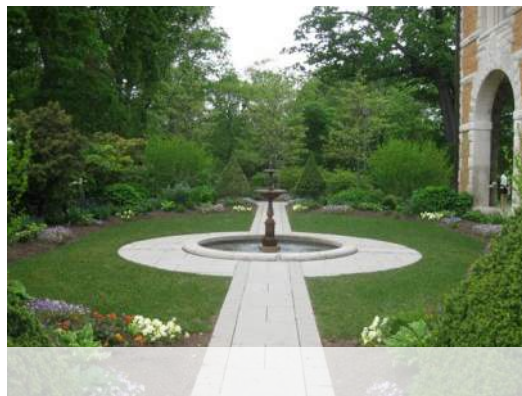
View to Mansion - The Main Line Country Houses 1870-1930, William Morrison

Norman T. Newton, Design on the Land, The Development of Landscape Architecture, 1971

Other key design elements and characteristics often included formal and extensive gardens, fountains, garden sculptures, ponds, and arboretums. Although no physical evidence for the design of the estate has been uncovered, many of the design principles of the time used in siting the mansion and developing the estate are still visible today, and many of the design elements are still in place, including the original fountain and arboretum.



Cairnwood Estate



Source reference: <https://tclf.org/landscapes/bryn-athyn-historic-district>



Oakbourne Park



During that time, arboretums were utilized for the quiet enjoyment of nature and for education purposes. The same is true today, and the Township has taken steps over the years to protect the Arboretum as evidenced by the Forest and Tree Stewardship Plan and recent Arboretum Accreditation designation. (See Appendices I and J)



"With few exceptions, these Oakbourne forests are relatively young, probably most having their beginnings not more than 120-130 years ago, perhaps about the time the Mansion was built."
-Forest and Tree Stewardship Plan for Oakbourne Park

General Site Data

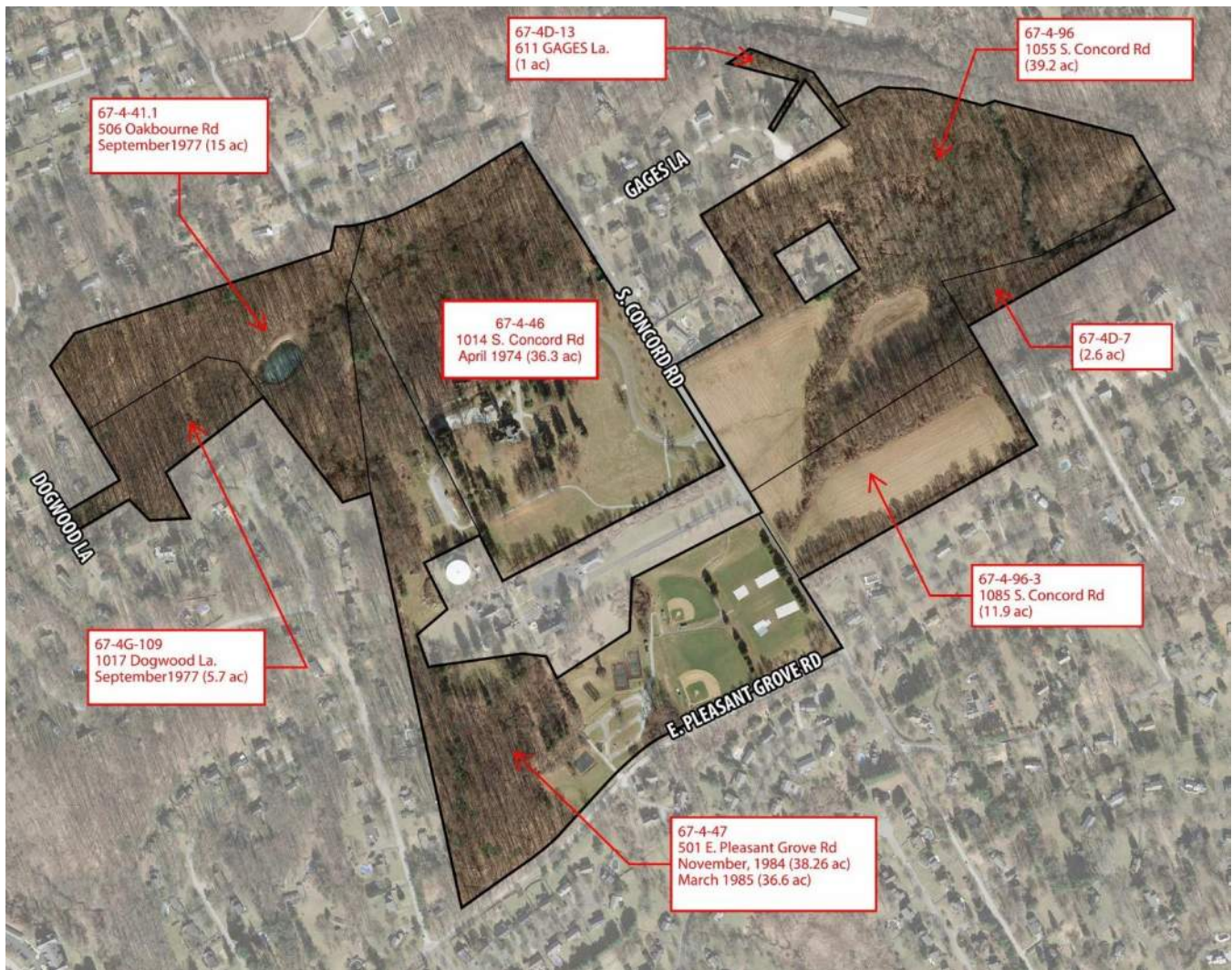
Data Collection / Base Mapping

Base-mapping data was compiled from the best available information as provided by the township. The project base mapping was developed from a variety of resources as outlined below and utilized for planning purposes only and should not be considered as boundary and topographic survey.

1. Chester County GIS data sets, individual parcel deeds, covenants and restrictions, site development plans for the Philadelphia Suburban Water Company (PSWC) water tower, site development plans for the cell tower located inside the Park, adjacent subdivision plans, land leases, easement and right of way agreements were reviewed and considered in developing the base map.
2. Floodplain, tax parcel data, and survey information was overlaid on orthographic aerial photography of the area to depict site surroundings.
3. The base mapping data was then field verified and supplemented with information gathered by the design team from several site visits over the course of the master planning process.

Site Acreage

According to previous research conducted by Township staff, the development of the Park started sometime in 1974, and by 1985 became what we see today, consisting of 8 parcels totaling approximately 148.3 acres.



Deed Restrictions, Rights-of-Way, and Easements

Preliminary research conducted by township staff indicated several easements, rights of way and restrictions exist for each parcel. Although not mapped, they were considered in the development of the plan layout. In summary, the parcels comprising Oakbourne Park can only be used for open space, agriculture, and recreation purposed in perpetuity.

Further documentation provided by The Department of Conservation and Natural Resources (DCNR) indicate that Parcel 67-4-47 (Athletic Core) is subject to Land & Water Conservation Fund (LWCF) restrictions.

*"Property acquired or developed with LWCF assistance **shall** be retained and used for public outdoor creation in **perpetuity**. When an area acquired or developed with LWCF assistance will be used for other than public outdoor recreation use, this use constitutes a conversion under Section 6(f)(3) of LWCF Act. Any property acquired and/or developed **shall not** be wholly or partly converted to other than public outdoor recreation uses without prior approval of NPS pursuant to Section 6(f)(3) of the LWCF Act and these regulations. The conversion provisions of Section 6(f)(3), 36 CFR Part 59, and these guidelines apply to each area or facility for which LWCF assistance is obtained, regardless of the extent of participation of the program in the assisted area or facility and consistent with the contractual agreement between NPS and DCNR.*

It should be noted that projects that have already utilized that source of funding are eligible for future LWCF funds. Which makes Oakbourne to be eligible for this for future improvements. With the passage of the recent Great American Outdoors Act, additional LWCF funds in 2021 and beyond will be available. LWCF funding is not limited to the soft cap of DCNR at \$250K. For example, in 2020 some projects were awarded funding in the \$1 million range.

Trails

There are approximately 1.1 miles of stone aggregate trails, 2.6 miles of natural surface trails, and 0.2 miles of paved trails in the park. The trail system is primarily used by the surrounding residents to exercise their dogs, walk, and run. There is a park trail map located in the paved parking lot adjacent to the Mansion; however, once you are on the trail system there are no further maps or trail markings indicating which trail you are on. The trail system has connections to some of the adjacent streets including Dogwood Lane, South Concord Road, Gages Lane, and James Drive. However, none of these connections have been formalized with any demarcation to show that you are entering the Park. Also, where the trail system connects to S. Concord Road in two locations there are no crosswalks provided for site users to safely cross the street. There are also many informal trail connections to the park trail system from the private residences surrounding the Park property. There is currently no bike route designated in or around the Park.



Vehicular Access and Parking

The Park is currently accessed from three separate entrances, the main entry off South Concord Road, the Cope Tract entrance off of South Concord Road (approximately 300' north of the main Park entrance) and the Athletic Complex entrance off of East Pleasant Grove Road. The main entrance and the Athletic Complex both have entry signs letting site users know where they are. The Cope Tract entrance is a small gravel driveway that has no signage indicating that it is for the Park property.

Paved Parking Lots

The existing paved parking lot adjacent to the Mansion contains 33 total spaces and is in good to fair condition. The lot is marked with striping containing two ADA spaces and has good tree canopy coverage. Although signage and pavement markings have recently been installed, the ingress and egress for the parking area along the main access drive is not well marked and is not overly clear on how the vehicular traffic should enter or exit the parking area.

Gravel Parking Areas

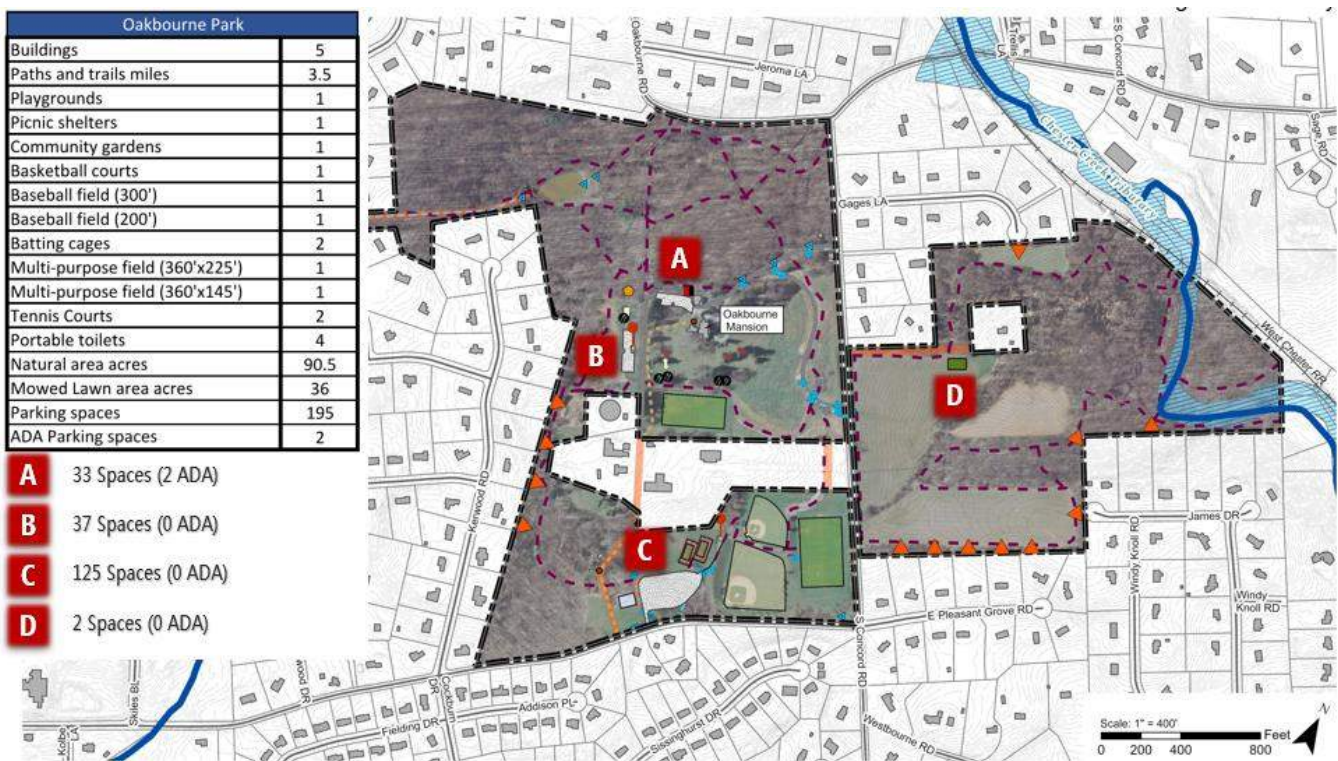
There are two existing gravel parking areas that are not lined with space markings, one at the Mansion and one in the Athletic Complex. The parking at the Mansion contains 37 spaces (zero ADA). This parking area is in fair condition. The parking at the Athletic Complex is a mix of gravel drive aisles and grass parking stalls which provide 125 parking spaces (zero ADA). The parking area is in fair condition, but provides no ADA access to the athletic facilities which it serves.

Grass Parking Areas

There is one grass parking area provided for trail users on the Cope Tract that provides a few parking spaces (zero ADA). It is not easy to distinguish where the spaces are located as they are unmarked, and it is not clear if you are allowed to park along the Cope Tract access drive.

Overflow Parking Areas

The large grass area in front of the Mansion is used for overflow parking for large events. The existing access drive has two curb cuts along the western edge of the drive to allow for the ingress and egress of vehicles.



Relevant Planning Documents

The following relevant planning documents were reviewed and considered in the development of the Master Plan.

Zoning Ordinance

- Site zoned: T – Township
 - Agricultural use is a permitted use.
 - Public Parks, Open Space and Recreation are permitted uses.
 - Setbacks (building and parking)
 - Front – 25'
 - Side – 25' (each)
 - Rear – 25'

- Max height: 3 stories or 38' (whichever is less).
- Impervious Area (Including buildings): 60%
- Storage areas must be screened from residential uses.
- Outdoor lighting is required in outdoor public places where public health, safety, and welfare are potential concerns during hours of darkness.
 - Lighting is required for safety for uses that operate during the hours of darkness where there is public assembly and traverse, including but not limited to public, recreational, and institutional.
- There shall be no outdoor loudspeakers or similar amplification which may be heard beyond the property line between the hours of 10 PM and 6 AM, plus Sundays and legal holidays.
- **Parking**
 - Parking spaces shall have dust-free, all weather surfacing.
 - Gravel can be used for reserve or overflow parking is approved by the board of supervisors.
 - All parking spaces shall be marked by painted lines.
 - Raised islands are required at the end of all parking bays.
 - Parking calculations
 - Public recreation
 - 1 space per 3 patrons
 - 1 space per 2 persons regularly employed at a peak period of use
 - Places of assembly
 - 2 spaces per 5 seats at maximum capacity
 - Libraries, museums, galleries, or similar uses
 - 1 space for all vehicles used directly by the facility
 - 1 space for each 1,000 SF of total floor area
- **Stormwater**
 - All new improvements will be subject to Pennsylvania Department of Environmental Protection (PA DEP) and Environmental Protection Agency (EPA) regulations for stormwater management.

2019 Comprehensive Plan Update

- "Large" Parcels. Saving the last large, remaining tracts, is a priority as they present the last opportunities to conserve these tracts from being subdivided into house lots and streets. Given the developed nature of the Township, five (5) acres constitutes a "large" parcel. The Protected & Unprotected Open Space Map indicates permanently protected lands and undeveloped lands over five acres in area. Nearby protected lands beyond the boundaries of Westtown are also indicated.
- Consider amending Zoning Use provisions to provide incentives for agri-business and agri-tourism to help keep remaining farm properties viable in a suburban environment.
- Undertake non-regulatory action and policy to support protection of natural resources Continue to support collaborative efforts with other agencies, conservation organizations, and owners of valuable open spaces to achieve permanent land conservation objectives, notably focusing on properties with significant natural resources. Develop best management practices for land stewardship of Township-owned natural resources, to improve the ecological performance of these resources and to educate and inspire private landowners.
- Preserve and enhance open space and recreational resources.
- Consider initiation of a referendum allowing Township residents to vote on whether to establish a dedicated tax for open space protection.
- Maintain strong relationship with large landowners including Westtown School, the Stratton Family, and the Stokes Family in order to actively assist in keeping those open spaces undeveloped and actively farmed.
- Evaluate the Township zoning ordinance for potential barriers versus incentives for viable agricultural related businesses.

- Seek and support collaborative efforts with other agencies, conservation organizations, and owners of valuable open spaces to achieve permanent land conservation.
- Evaluate ability to allocate a greater percentage of the Township budget for parks and recreation and leverage this base amount with other funding sources (fees, grants, gifts, sponsorships, etc.).
- Develop best management practices for land stewardship of Township-owned open spaces, to improve the ecological performance of these resources and to educate and inspire private landowners.
- Complete master park plans for all Township parks, including maintenance and management plans for all structures and facilities.

Open Space, Recreation, and Environmental Resource Plan

Implementation Recommendations:

Goal 1

Make Westtown Township “Forever Green” by preserving natural, historic, and scenic places.

- Objectives—A developed, suburban community, Westtown Township values the remaining natural areas and historic, agrarian landscape. The Township works to retain the remaining working farms and largest remaining undeveloped tracts, as open space. Paramount to success is establishing working relationships with the landowners of the largest remaining tracts. The local land use regulations help meet the goals of conserving open space, natural areas, and water quality. Conserving open space and managing Township lands in a green and sustainable manner helps to conserve and enhance water quality in Chester and Goose Creeks and Radley Run. In addition to leading by example, the Township educates homeowners on land management, establishing partnerships with private and non-profit organizations to do so.

Surrounding Land Use

The site is surrounded by primarily residential developments. Two out - parcels are within its boundary, and while not completely within the Park boundary a third parcel bisects the western portion of the Park.

- Eastern Boundary: Goose Creek and railroad corridor
- Western Boundary: Dogwood Estates and Westtown Woods residential developments
- Southern Boundary: Pleasant Grove, Wallwork, and Westtown Country Estates residential developments
- Northern Boundary: Concord Hills and Oakbourne Trees residential developments

Within the Cope Tract is a 1.5-acre residential property that is privately owned. A shared access drive from South Concord Road provides access to both the park and the outparcel. Careful considerations should be given to the privacy of the residence as the park land completely encircles the property. The natural trails that are developed in that area currently do not impact the residence.

The Gaudenzia House is a non-profit organization that owns a 10.8-acre property situated between the Athletic Core and the Mansion Core areas of the park. The property is improved with five separate buildings utilized for a drug and alcohol residential rehabilitation center. The property is elongated and bisects the Park into two distinct areas. Although there is an access



agreement across the entry drive from South Concord Road, the location of this facility within the midst of the Park presents several challenges to unifying the Mansion area and the Athletic Complex.

Adjacent to the Guadenzia House parcel is 1.1-acre parcel owned by Aqua, Pennsylvania that houses a water tank that is accessed through the Park via the park access drive.

Natural Resources

Water Resources

Wetlands/Pond - Based on a review of the National Wetland Inventory (NWI) map, there is one palustrine wetland (pond) within the limits of the Park. This pond drains to a stream that has a riparian zone that is listed as a forested/shrub wetland that flows east from the pond toward Chester Creek. JMT recommends completing a presence/absence survey for wetlands within lands that may be identified for future development or preservation. Since Chester County is known to harbor habitat for the threatened bog turtle, an evaluation of potential habitat should occur during the presence/absence survey for wetlands. The 100-year floodplain of Chester Creek is located along the eastern limits of the park.

Streams -There is one tributary to Chester Creek, which is listed as a Trout Stocked Fishery (TSF) and Migratory Fishery (MF) according to PA Code 25, Chapter 93, Water Quality Standards. It is not listed as an approved trout waters, a stocked trout stream, or a stream that supports natural trout reproduction. No in-stream restrictions will be required for working in and around this stream. Chester Creek is listed as being impaired for aquatic life and recreational use within the watershed. The project is located within the Chester Creek watershed, which has an approved Act 167 Stormwater Management Plan.

Land Resources

Vegetation – Oakbourne Park provides a refuge for native flora and fauna and specimens trees as part of the Arboretum area. The natural systems are challenged to sustain themselves within the surrounding developed landscape of suburban residential land use. The land cover vegetation of the site varies throughout the park and is further defined as part of the Tree Stewardship Plan located in Appendix I. The plan includes an analysis of the woodlands, and also discusses invasive species, plants observed, hazard trees, species of special concerns, and the Arboretum.

Riparian Corridor Vegetation – Riparian corridor vegetation occurs along the unnamed tributary located in the Cope Tract and along the drainage way traversing the site from South Concord Road south to the existing tributary.

Wildlife Habitat – The Park offers diverse landscapes for various species of mammals and birds. The site is well suited for bird watching and attracts hawks and many passerine and migratory species. As with any park which has cultivated or large mowed areas, Oakbourne may attract Canadian geese. Canadian geese may seek refuge and the populations need to be managed to prevent degradation of the site.

Utilities in the Area of Oakbourne Park

Water – The site has existing water service provided from AQUA Pennsylvania (formerly Philadelphia Suburban Water).

Sewer – Sanitary sewer is supplied to the site from the southern end of the park where it traverses East Pleasant Grove Road.

Electric – The site has existing electrical service which is provided from South Concord Road.

Communications – The site is serviced by Verizon.

Resource Inventories and Analyses

Several inventories were generated to provide a foundational understanding of the property's resources and their capacity or suitability to support uses and development beyond the existing uses surrounding the Mansion and the agriculture on the Cope Tract. These inventories include the following:

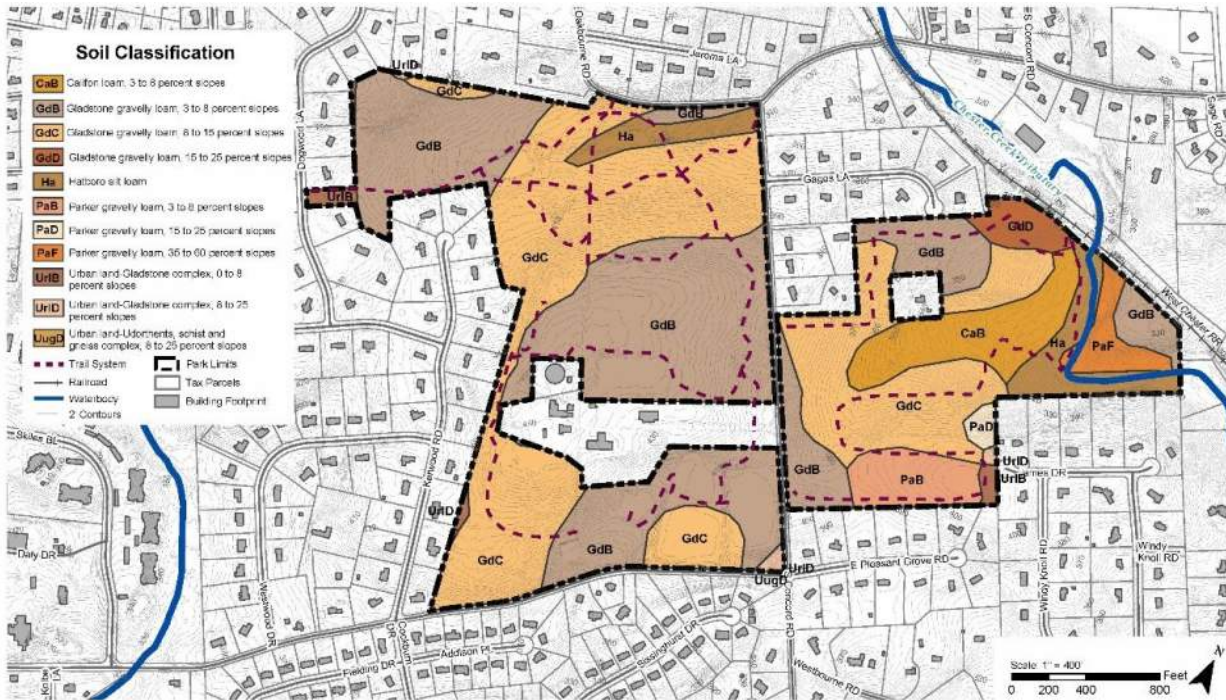
Slope: a mathematic computation of the terrain's gradients or pitch; light green areas are comprised of slopes <5%; the dark red areas contain slopes greater than 20%.



Landform/Elevation: Divides the terrain into increments of vertical change or elevations; the light blue denotes the highest elevations and the dark green color highlight the lowest elevations within the site.



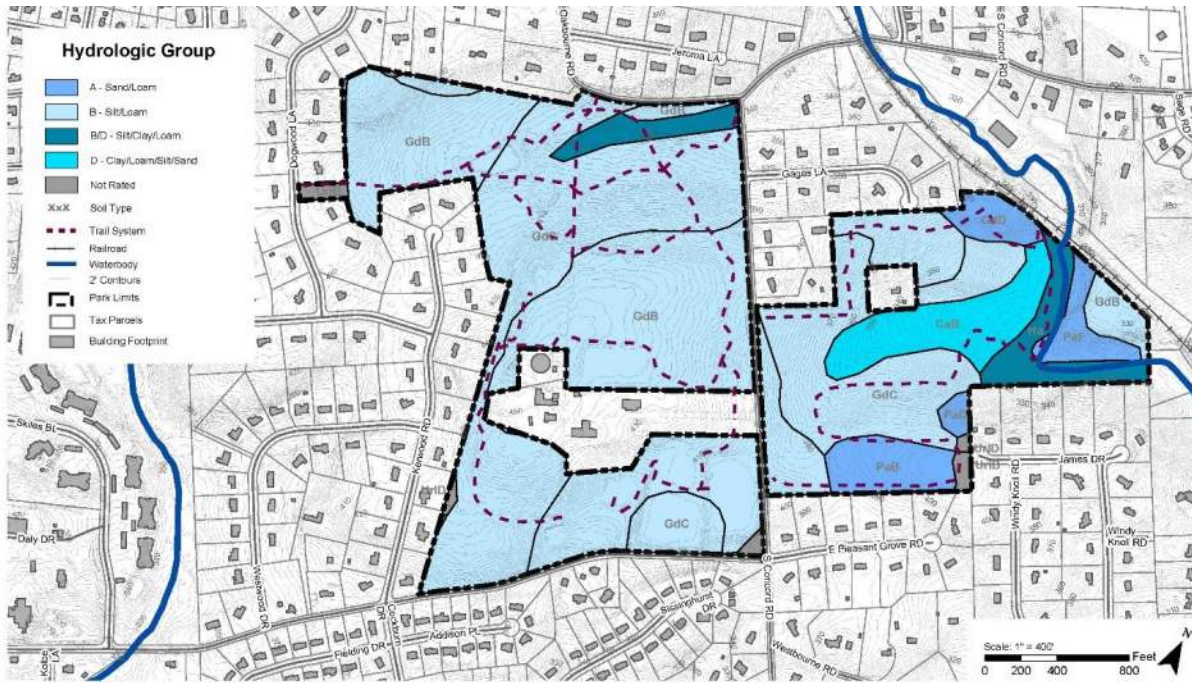
Soils Groups: Delineates the location and extent of the soils found on the site as per the U.S. Department of Agriculture (USDA), Soil Conservation Service, Chester County Soils Survey; six total soils series exist and are broken into 11 soils groups based on their slope.



Soil Development Limitations: Categorizes the existing site soils based on their capacity to support development.

Map Unit Symbol	Map Unit Name	Hydrologic Class Rating	Drainage Class	Depth to Water Table	Acres in Oakbourne Park	Depth to Bedrock	Depth of Topsoil	Limitations to Site Development
CaB	Califon loam, 3 to 8 percent slopes	D	Moderately Well Drained	>1 ft	8.5	>80 in	9 in	Load limitations for roads and buildings due to shrink/swell, flooding potential, and depth to saturated zone.
GdB	Gladstone gravelly loam, 3 to 8 percent slopes	B	Well Drained	>6 ft	59.1	>60 in	10 in	Limitations due to depth to saturated zone
GdC	Gladstone gravelly loam, 8 to 15 percent slopes	B	Well Drained	>6 ft	57.8	>60 in	10 in	Limitations due to depth to saturated zone and slope
GdD	Gladstone gravelly loam, 15 to 25 percent slopes	A	Well Drained	>6 ft	2.4	>60 in	10 in	Load limitations for roads and buildings due to shrink/swell, slope, and depth to saturated zone.
Ha	Hatboro silt loam	B/D	Poorly Drained	<1 ft	7.9	>80 in	9 in	Limitations due to depth to saturated zone and flooding potential
PaB	Parker gravelly loam, 3 to 8 percent slopes	A	Somewhat Excessively Drained	>6 ft	4.5	>70 in	8 in	Limitations due to gravel content
PaD	Parker gravelly loam, 15 to 25 percent slopes	A	Somewhat Excessively Drained	>6 ft	0.8	>70 in	7 in	Limitations due to slope
PaF	Parker gravelly loam, 35 to 60 percent slopes	A	Somewhat Excessively Drained	>6 ft	3	>70 in	9 in	Limitations due to slope and gravel content
UrIB	Urban land-Gladstone complex, 0 to 8 percent slopes	Not Rated	Not Rated	>6 ft	1.5	>70 in	10 in	None noted
UrID	Urban land-Gladstone complex, 8 to 25 percent slopes	Not Rated	Not Rated	>6 ft	0.6	>70 in	10 in	None noted
UugD	Urban land-Udorthents, schist & gneiss complex, 8 to 25 percent slopes	Not Rated	Not Rated	>6 ft	0.1	>50 in	6 in	None noted

Hydrologic Groups: Classifies the soil groups based on their porosity value and geotechnical stability/suitability for excavation and/or building foundations.



Development Limitations Map

The mapped inventories, conclusions of Tree Stewardship Plan, and identified historical viewshed were combined to create a comprehensive illustration of the Park and the natural capacity to support development. Development, in this case, relates primarily to recreational pursuits (passive and active), which may include athletic facilities, small-scale buildings, parking lots, meadows, and trails. The purpose of the analysis was to delineate the envelope or general footprint where any future development can occur without negatively impairing the site's natural resources. The Development Limitations map is one of the critical components in framing the Master Plan recommendations. The criteria and definitions used for the three zones of identified are as follows:

Preservation Zone – is characterized as environmentally sensitive areas that are wooded, contain steep slopes (>25%), are within the floodplain, soils that are in hydrologic groups B & D, and within the historical viewshed. Preservation areas will have very limited disturbance in developing or restoring existing recreation facilities.

Conservation Zone – is characterized by steep slopes (>10%), floodplain areas, and soils in hydrologic group B. The Conservation Zone can generally support more development than the Preservation Zone. Some potential developments are small, paved gathering spots, play areas, smaller parking areas, pavilions, shade structures or paved trails.

Development Zone - is characterized as areas not already included in the Preservation or Conservation Zones. Development Zones may have parking lots, larger buildings, and any other appropriate support facilities.



Conclusions

The site analysis provided valuable information that guided the Plan for the Park. Conclusions include:

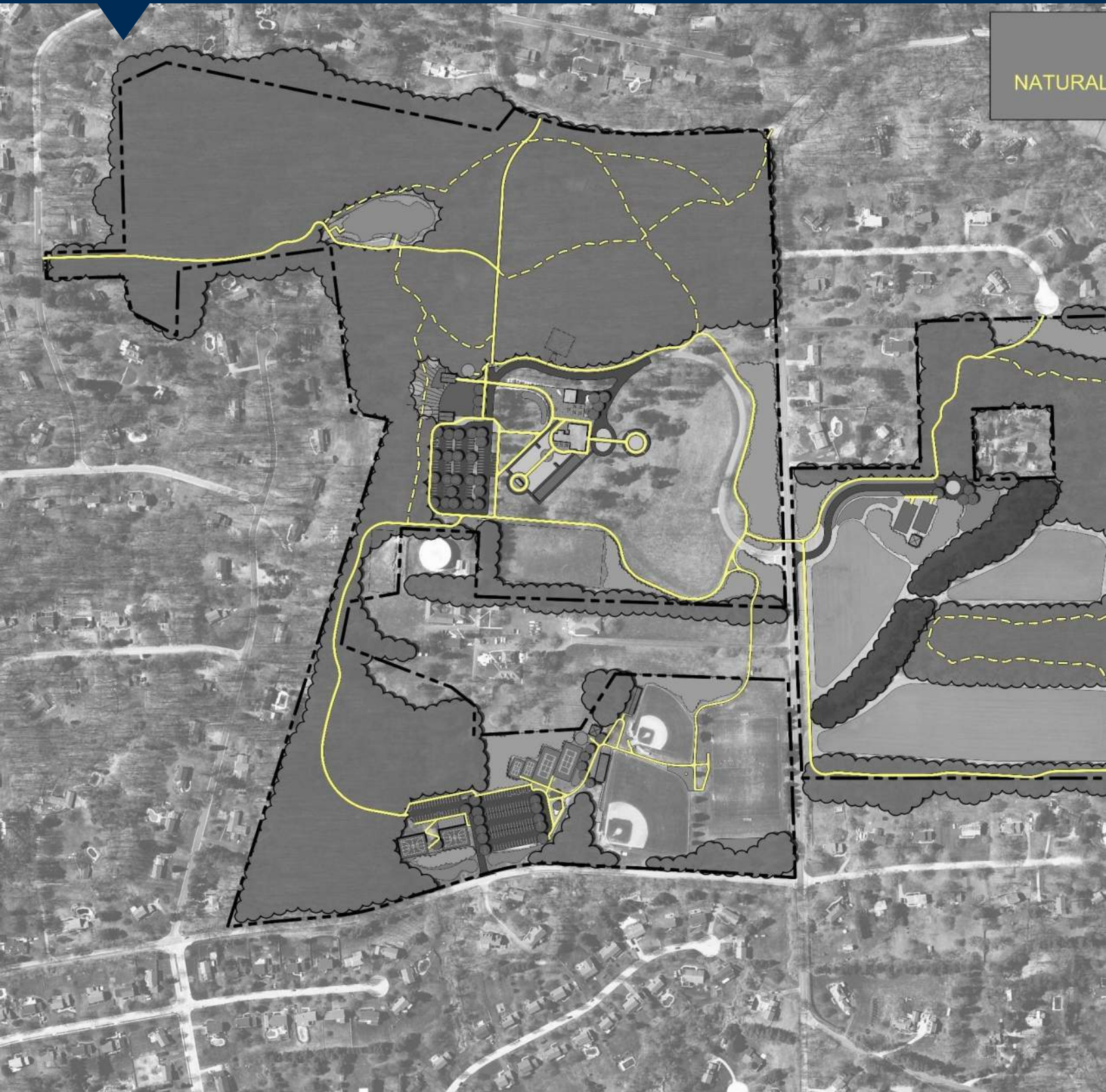
General Conclusions –

- The Park is a unique treasure like no other park in the region, there truly is a little bit of everything here.
 - Arboretum
 - Historic and Cultural site
 - Athletic Complex
 - Regional Park
 - Nature Park
 - Active farming
- One of the greatest assets of the Park is the stories and lessons it has to offer.
- Cultural American Country Place Era Estate Part of a public park.
- The park design **MUST** weave these important stories together into a cohesive design that respects the historical and cultural context of the place that offers a unique user experience.
- This is a cultural landscape that should be preserved, protected, and celebrated.
- Although the park has been developed around the mansion, it is separated in many respects from the rest of the park.
- The long views across the site **MUST** be preserved.
- The individual pieces are disconnected and therefore presents a park with no identity.
- There is a strong sense of **OWNERSHIP** for individual places within the park.
- The individual zones of the Park can work in harmony and should be connected both visually and physically where practical.
- The Park is a natural oasis in the midst of extensive suburban development.
- The Mansion is the focal point of the property.
- The Cope Tract is not suited to intense development scenarios, such as athletic fields due to slope and soil limitations.
- The ongoing agricultural practices are a scarce feature in the surrounding area and have an important story to tell future generations.
- The site is divided into a series of outdoor rooms, defined by topography hedgerows. Each room offers a different environment and recreation opportunities.
- Perimeter roads are heavily traveled. Safe ingress and egress to the site must be provided.
- Pedestrian circulation routes must meet the requirements of the ADA to provide like opportunities for physically challenged persons to experience the natural areas.

Resource Protection –

- The Park's natural areas should be protected and conserved.
- Property encroachments should be identified and addressed.
- Maintenance practices (mowing, clearing) should involve Best Management Practices to enhance water quality.
- Extreme steep slopes have limited occurrence within the Oakbourne Park site, but must be respected with any improvements to minimize erosion and align with the requirements of the ADA.
- Existing voids in the vegetative cover should be planted to provide habitat area, filter stormwater runoff, minimize erosion, minimize maintenance, and reduce fragmentation. Meadows should replace lawns where practical.
- Wildlife habitats should be preserved and enhanced through planting of native vegetation to supply food and shelter.
- Connectivity of the forest vegetative cover should be promoted to bridge the gap for wildlife movement and minimize edge areas where invasive species could be introduced.
- Involve surrounding landowners in stewardship initiatives.
- Invasive species should be removed where they exist and monitored to limit introduction into the site and promote native habitat.

Master Plan Recommendations



Introduction

Oakbourne Park is a complex and significant cultural and recreational resource for Westtown Township and the surrounding municipalities. A park as large as Oakbourne Park, with extensive natural and cultural resources and active and passive recreation opportunities, attracts visitors from throughout the Township and the adjacent municipalities. Developing a plan that directs future growth and reinvestment in existing resources is key to the Park's continued success and elevating its stature as a park that offers something for everyone.

Guiding Principles

In conjunction with the Master Plan vision statement, a set of guiding principles were generated by the design team to manage and shape the content of the final recommendations.

1. Rediscover and Enhance Historic Resources

The Mansion and remnant features are important elements within the landscape. They contribute to the Park's sense of place and should become the centerpiece for special events such as concerts, weddings, exhibits, and community events. To create sense of place, it is essential to think of the Park's historic context and weave those interpretive elements into the design and programming. Implementation of the design must consider the Park as more than a collection of facilities. The scenic and visual quality of the site developed facilities, and landscape should match the stately elegance of the Mansion.

2. Infrastructure Expansion

It is essential to maintain and expand the capacity of the park to accommodate existing and new user groups as park use continues to grow, to accommodate a diverse audience that includes an aging population. New facilities, programs, and improvements to the core areas of the developed portions of the Park will achieve better connectivity, safety, and function. Much needed restrooms in highly active areas are a priority, and stronger internal and external neighborhood connections that provide safer access to and within the park are proposed. Improved infrastructure will address ADA circulation deficiencies and knit the Cope Tract to the main park area, creating opportunities to experience and discover all of the Park.

3. A Park for Everyone

The Park offers several recreational opportunities that currently caters to a wide user base including young families, runners, sports groups, and older adults. However, the Park offers a unique setting that can grow recreation and programming opportunities to expand the user base. The Plan includes facilities that address the current and future demographic trends by providing recommendations for the expansion of activities and amenities that involve the whole range of family dynamic from small children to seniors.

■ Resource Based Recreation

An unnamed tributary of Chester Creek flows though the Cope Tract extending approximately 1300 linear feet. The creek includes a floodplain and meanders through several landscapes in a very short stretch. The riparian buffer and creek offer opportunities for bird watching and nature study.

■ Historic and Cultural Interpretation and Education

The historic Oakbourne Mansion, water tower, carriage house, and gate house have been preserved. The surrounding landscape and some remaining remnant features of the estate are still evident and presents a setting for learning about the local history of the site. Information about the historic structures should be shared with park visitors through an overall interpretative plan that includes identification, programming, and signage.

- **Group Outings and Programs**

The interpretive elements of the Park and the picnic areas, pavilion, fire circle, and open lawn areas provide space for families and community organizations such as the scout groups, school ecology clubs, service clubs, and others to gather at the Park for their programs. The small group gathering area with fire pit provides a venue for group presentations.

- **Traditional Recreation**

The Park provides a setting for spending time with family and friends. Various gathering areas, play areas, trails, the event lawn, and open space for leisure activities provide a unique setting for lifetime memories.

- **Self-Directed Activities**

There are several open spaces within the Park that are not scheduled with activities. Visitors can enjoy the Park setting and facilities at their own pace, on their own terms, and gather for informal activities such as walking, jogging, sports training, playing ultimate frisbee, and picnicking.

- **Competitive Sports**

The existing Athletic Core includes two baseball fields and multi-purpose field which offer opportunities for area youth to participate in sports activities. The basketball courts and tennis courts provide for competitive league play and pick-up use.

- **Special Events Space**

The event lawn has been successfully programmed for special events and community activities. Support facilities including convenient restrooms, parking, and drop-off area to support large gatherings were considered in the proposed design.

4. Resource Protection

The unique features of this Park will be protected, including the intact forest, specimen trees, and historic viewsheds. One of the Plan's priorities is the preservation of the landscape, stewardship, and sustainability, and incorporation of cultural elements expressing the character Chester County.

5. Connectivity

All areas of the Park must be connected to provide users safe and convenient access between destinations within the entire park. Currently each area of the Park serves a specific user group and users have limited reasons to visit other areas of the Park. Certain areas of the Park are inaccessible, unknown, and not considered part of the Park.

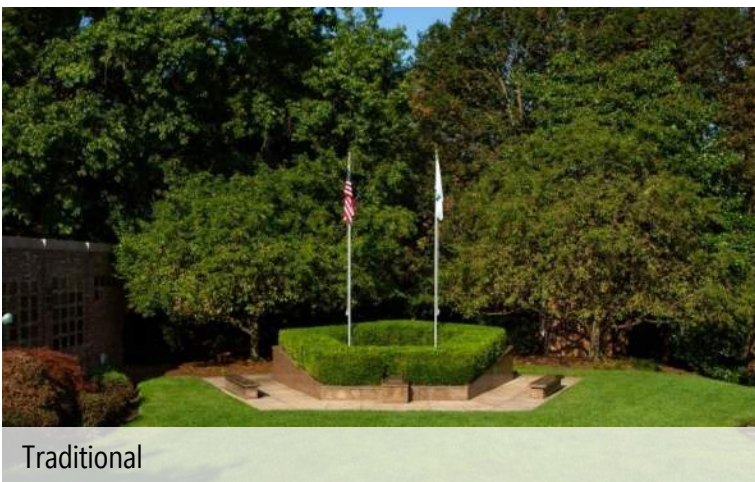
Key Recommendations

The key recommendations detailed below were derived from the involvement of the Master Plan Study Committee, Township officials, management, and staff; key person interviews; and the experience of the planning team.

1. Think big! Go for the gusto! Do not get lost in the details!

This is the single most important recommendation. Oakbourne is no ordinary park. It is something very special. The mindset that key stakeholders have about this park will make all the difference in its success. Opportunities to think big while serving the people of Westtown are provided below:

- Interpretation** – Do not be content with mere signage. Reach out to state-of-the-art interpretive specialists to create a plan using all the aspects of technology and storytelling available in the 21st century. Look at leading providers of interpretive services to see how they do it: National Park Service, highly rated modern museums, etc. Pursue alternative funding in education, science, and health to develop a strong and exciting interpretive program. The Interpretive Plan should define the history and essence of the site. Park users should be allowed to experience the history firsthand through a variety of methods including exhibits and programming.
- Gardens** – The gardens have a bigger role to play as part of a regional destination garden association. Gardens provide fantastic opportunities for programming, education, partnerships, and revenue generation. The community garden plots, the clock garden, and arboretum all offer unique destination quality promise. Pursue a formal partnership with Longwood Gardens to help advance Westtown’s garden prominence.
- Playground** – Great playground design is a rarity and can be one of Oakbourne Park’s greatest assets. A playground rooted in modern play theory that engages people from two to 100 years old will be a major drawing card in Oakbourne Park. Relating the playground design to the history of the site paves the way for ultimate imaginative design. The movements underway when Oakbourne was built include the Country Estate Era, the great Playground Movement of the Industrial Revolution, child labor laws and public health crises that fostered the playground movement are the seeds for interpretation and design of the play space that also conveys the history of the site. Some of the greatest children’s literature of all time was produced in this era: Peter Pan, Wind in the Willows, Gulliver’s Travels, Robinson Crusoe, and Ann of Green Gables all lend themselves to unique themes that defy the current practice of simply picking play equipment out of catalogs.



Traditional



Inspiring



Traditional



Inspiring



- **Sports** – The unique basketball court with the wonderful stone wall shouts imagery from 1891 when Dr. Naismith invented basketball, right about the time Oakbourne was underway. Capitalizing on this history lends itself to programming like “The Peach Basket Tournament” that would celebrate sport and Oakbourne Park’s place in history.
- **Aesthetics** – The beauty of the site can be the number one reason why people visit the Park. Often, landscaping is the hardest park facility to fund. It’s a lot easier to get funds for a game court or a ball field than for landscaping that will set this park apart and define its very nature and appeal.

2. Establish the Importance of the Park with a Vision and Mission

Elected and appointed officials need to have a clear vision for the parks in order to get behind them and support them. In defining the vision and mission for Oakbourne Park, the community public participation process identified important values as the foundation for planning and operating the park. These included:

Values

Values highlight what Westtown Township stands for in planning, managing, maintaining, programming, and supporting Oakbourne Park.

1. **Preservation:** Culture, history, agricultural heritage, and open space with an emphasis on accessibility, sustainability, and beauty.
2. **Recreation:** Park visitors play, learn, and develop a greater capacity to enjoy life.
3. **Education:** Park visitors understand and enjoy the history of the Park and its cultural and natural resources.
4. **Community Engagement & Public Service**
5. **Responsiveness and Innovation:** Recognize the need for leadership and excellence in park maintenance, programming, and management.
6. **Quality over Quantity:** Park elements are of high quality and maintained at a sustainable level. We will provide an optimal level of programs and support to assure superior visitor experiences.
7. **Sustainability:** Environmental and Financial: Make decisions that result in providing services at a sustainable rate and facilities that can be reasonably maintained, set realistic program and service delivery targets, and modifying park management and maintenance methods and procedures to increase efficiency.
8. **Collaboration:** Foster an ongoing working practice whereby public and private partners work together toward the common purpose of achieving the vision and goals of Oakbourne Park.

3. Continue to Involve the Public in Park Planning, Design, Programming and Operation

Public support is vital to park success.

- Continue to involve the public in park planning as the Master Plan is phased in over time and construction documents for the final design are developed.
- Involve partners and community-based organizations in park programming.
- Continue to publicize advances in the Park through all media sources such as newspaper, the newsletters, website, Facebook, Twitter, Instagram, and e-mails. There is a transition underway in which the diversity in generations has various preferred ways of getting information that must be used.

Roll the Plan Study Committee over into an Oakbourne Park Task Force to act in an advisory capacity to officials and staff working on the Oakbourne Park Master Plan implementation and other projects by participating in meetings, supporting

research and analysis efforts, and providing input and recommendations at the direction of the Westtown Township Board of Supervisors.

4. Implement the Park Master Plan

Follow the recommendations in phasing in the park improvements. Continue the momentum begun in the master planning process by developing a work plan for year one.

- Apply for two grants in 2021 to stoke momentum: the Pennsylvania Department of Conservation and Natural Resources (DCNR) Community Conservation Partnerships and the Pennsylvania Department of Community and Economic Development (DCED). These grants can be used to match each other. Seek a LWCF grant from PADCNR to secure \$1.5 million funding for a \$3 million project for Phase 1. Add Phase 2 with a DCED grant that requires only a 15% match with a maximum grant of \$250,000. Work closely with the sports leagues, as Phase 1 will be to improve the Athletic Core.

5. Establish a Formal Written Standardized Maintenance Program

Maintenance management is the process by which the Township plans, directs, and controls the care of parks and recreation facilities. The Park should reflect an effective level of service for protection of resources and park visitors as the Plan recommendations are carried out: an inviting, clean, and attractive appearance, the reality of fiscal and human resource limitations of Westtown Township, and recognition that partners are key to the effective operation of the Park. There is a tendency among governmental organizations in general to expect park maintenance crews to absorb the additional workload created by a revitalized park. This is especially true when the workforce is dedicated and passionate about the quality of its work.

Routine scheduled maintenance provides the foundation for effective park security and risk management. A park that is well designed and well maintained attracts visitors. The more use a park gets, the less vandalism occurs. When park visitors see that a facility receives good care, the risk of vandalism and other undesirable social behaviors tends to diminish. Parks that are not well tended get fewer visitors and higher levels of vandalism. The addition of a park caretaker or park ranger type of position to staff the park during peak hours will have major benefits for the Township, the Park, and Park visitors.

With a maintenance plan in place, there will be a clearly defined direction for the maintenance goals and operations.

Making a repair in an emergency, unscheduled basis costs seven times as much as it does to perform the task on a routine basis. It is far more efficient and effective to perform park maintenance on a planned and scheduled basis. On-going maintenance also prevents the need for costly rehabilitation that results from deferred maintenance.

Establish Best Practices

According to the National Recreation and Park Association's Green School and Maintenance Management Schools, the best management practices for parks were identified based upon the operations of successful parks and recreation systems nationwide. These practices are founded in sustainability and blend energy conservation, use of hybrid vehicles, Leadership in Energy and Environmental Design (LEED) design principles, use of alternative energy sources, recycling, tree planting, and reducing the use of chemicals. Since workload cost tracking for park maintenance is not yet available, the following best practices will serve as recommendations for this plan and cost projections.

Best Practices include having:

- a. 18-20 MANAGED park acres per park maintenance employee.
- b. A formal maintenance management plan in place.
- c. Expertise regarding the professional management of parks, recreation, trails, and natural resources is available on staff or through outside sources such as through partnerships or contracting.
- d. Contracts for the purchase of maintenance services may be a sound alternative which would need vetting in a union setting.

- e. A written work order system to track labor, materials, supplies, equipment, and emergency calls.
- f. A formal equipment replacement program.
- g. Written maintenance standards for parks and recreation.
- h. Design standards for facilities.
- i. A budget of at least five percent of the municipal operating budget or per capita expenditures of at least \$36 per capita for the parks and recreation operation as a whole or four to six percent of the value of their total assets without land value for park maintenance or a mix of the three benchmarks.
- j. A policy to guide the Township, Public Works, and park maintenance in its green practices.

6. Explore the establishment of a multi-municipal Parks and Recreation Consortium.

- a. Reach out to the PA DCNR representatives to discuss the multi-municipal parks and recreation consortium potential. Have them participate in a discussion with representatives of potential willing partners for the project.
- b. If consensus is achieved on moving forward, apply for a Peer Study that is available on a rolling basis. Divide the grant match of \$1,000 among the partners.

7. Retain a specialist in special event venues and economic development to assess the facilities and pricing structure for Oakbourne Mansion and park facility rentals.

- a. This has some urgency due to trends in facility rentals and post-pandemic changes.
- b. Call some specialists to get cost estimates and examples of work they have done elsewhere.
- c. Plan to implement the recommendations as soon as practical.

8. Develop policies for park operations.

- a. Naming Rights
- b. Gifts and Donations
- c. Revenue Policy
- d. Risk Management Policy

9. Begin to plan and phase in the allocation of resources to increase funding for capital improvements and maintenance support.

- a. Follow the recommendations in the Trust for Public Land's Financing Study of 2018.
- b. Given the Township's strong financial position, explore the potential to fund most of the cost of the improvements made in the Park Master Plan in a shorter amount of time.

10. Continue to plan for a great park. Additional planning studies to supplement the Master Plan and ensure the vision is upheld should include:

- a. Development of an Interpretive Plan for the entire park area.
- b. Prepare a Historic Landscape Design for the Mansion Core and gardens.
- c. Develop a comprehensive stormwater management study for the entire park site.
- d. Investigate joining the Greater Philadelphia Gardens Association.

According to the American Public Gardens:

Greater Philadelphia Gardens ("GPG") is a consortium of more than 30 public gardens, arboreta, historical landscapes and supporting organizations located within 30 miles of Philadelphia. Since 1989, the consortium has jointly promoted and encouraged visitation to its member gardens, which represent one of the key components of the region's leisure and tourism economy. The collective has branded the region "America's Garden Capital" to reflect the breadth, quality, and variety of public garden offerings available all year long in the region. Learn more at americasgardencapital.org.

Executive Summary from The Economic Impact of Greater Philadelphia Gardens, prepared by Econsult Solutions dated October 6, 2016

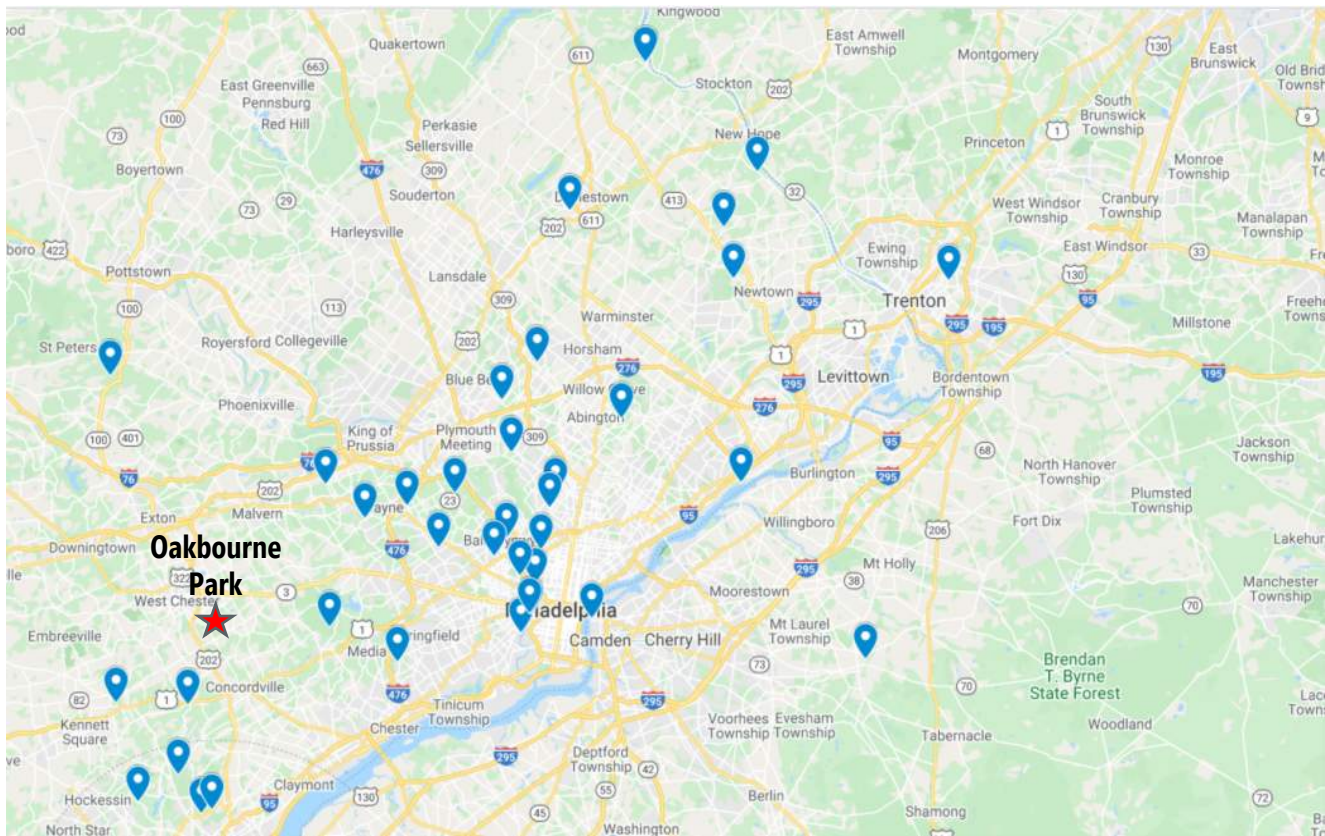
While gardens are traditionally discussed in terms of their aesthetic and cultural value, amenities like the GPG member institutions enrich the regional economy in a number of ways:

- Their collective economic footprint as employers and purchasers of goods and services is sizable, yielding significant spillover economic activity.
- Their presence and reputation also attracts and increases visitor spending from outside the region, which accrues across a number of sectors and then circulates through the local economy.
- Their role as initiators of capital investment supports a significant volume of local economy activity, and enhances the regional tourism and recreation infrastructure.

The real estate market considers their presence as an amenity, thereby increasing property values; In sum, GPG member gardens are cultural attractions that make the Philadelphia region a more attractive place to live and visit, thereby generating economic value in a variety of ways. The dual purpose of this report is to understand and articulate the character of visitation to member gardens, and to calculate the magnitude of impact from GPG's economic footprint within the Philadelphia region.

Oakbourne Park has the bones of a great place with many stories to tell. The Park has its own unique history, but is also part of a much bigger story of the region.

The Park is within the region of the Greater Philadelphia Gardens Association as shown in the map below illustrating the location of existing member gardens.



There are many different garden types in the surrounding area including arboretums, formal, Asian, natural, and botanical. Each is distinctive and offers various venues such as wedding and events, food, birding, museums and gardens, art and sculpture and other passive and education opportunities. A 2016 report commissioned by Greater Philadelphia Gardens shows that the 30-plus gardens and historical landscapes of the region collectively attracts approximately 2.5 million visitors per year. In addition to programming, which serves as a major visitor attraction, most gardens reported hosting community educational programs consistently throughout the year. While many of these programs are not revenue-generating, they provide considerable social and educational value within the region.

Below is a current listing of the member gardens.

The Gardens

Brandywine Valley

- 1 Brandywine River Museum of Art
- 2 Hagley Museum and Library
- 3 Longwood Gardens
- 4 Mt. Cuba Center
- 5 Nemours Estate
- 6 Welkinweir
- 7 Winterthur Museum, Garden & Library

Bucks County

- 8 Andalusia Historic House and Gardens
- 9 Bowman's Hill Wildflower Preserve
- 10 The Gardens at Mill Fleurs
- 11 Henry Schmieder Arboretum
- 12 Hortulus Farm
- 13 Tyler Formal Gardens

Main Line & Del. County

- 14 Barnes Arboretum at Saint Joseph's University
- 15 Chanticleer
- 16 Haverford College Arboretum
- 17 Henry Botanic Garden
- 18 Jenkins Arboretum & Gardens
- 19 Scott Arboretum

- 20 Stoneleigh: a natural garden
- 21 Tyler Arboretum

Montgomery County

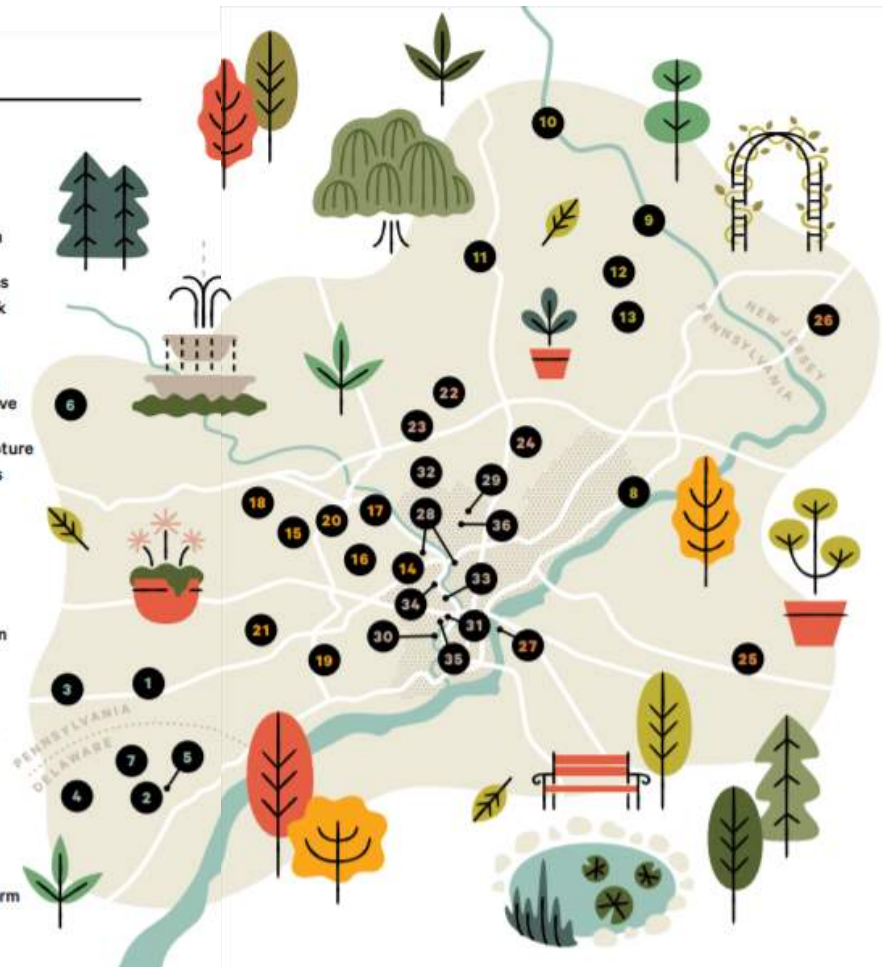
- 22 Ambler Arboretum
- 23 The Highlands Mansion & Gardens
- 24 PHS Meadowbrook Farm

New Jersey

- 25 Barton Arboretum and Nature Preserve of Medford Leas
- 26 Grounds For Sculpture
- 27 Camden Children's Garden

Philadelphia County

- 28 The Arboretum at Laurel Hill & West Laurel Hill Cemeteries
- 29 Awbury Arboretum
- 30 Bartram's Garden
- 31 James G. Kaskey Memorial Park
- 32 Morris Arboretum of the University of Pennsylvania
- 33 Philadelphia Zoo
- 34 Shofuso
- 35 The Woodlands
- 36 Wyck Historic House, Garden, Farm



Source reference: https://static1.squarespace.com/static/52d4725ee4b0d4a5bfc88830/t/5e62758724157b7f38367fd7/1583510933057/AGC-Passport_rev2020_FINAL-web.pdf

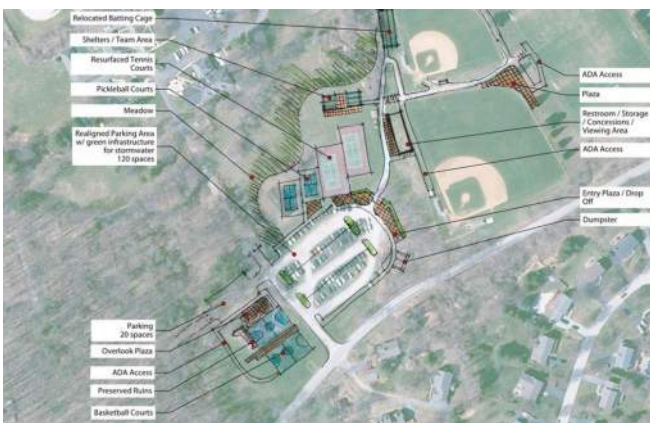
Concept Formulation

This plan proposes improvements to the physical organization of the park and its layout to ensure that the park works and functions well. Currently, there is a sense that there are multiple parks within Oakbourne. The various areas function independently even though they are already successfully utilized. Following the direction of the vision statement and design objectives to integrate park areas with the whole park experience in mind—the focus of the schematic concepts was not to generate multiple alternative designs, but to address the inherent issues within each area and develop a distinct sense of place and overall connectivity between the areas.

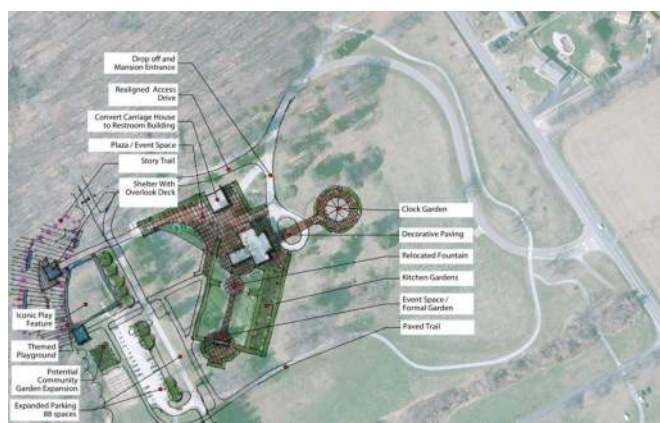
Concept Alternative

Based upon the input provided throughout the planning process, the following working concepts were developed and presented to the PSC on October 27, 2020. The designs and recommendations were generally favorable as outlined in the meeting minutes located in Appendix L. Based on the input received, the concepts were refined, and an overlay concept was developed for the Cope Tract to depict additional potential passive recreational facilities that could be considered in the event agriculture was no longer a use in the Park.

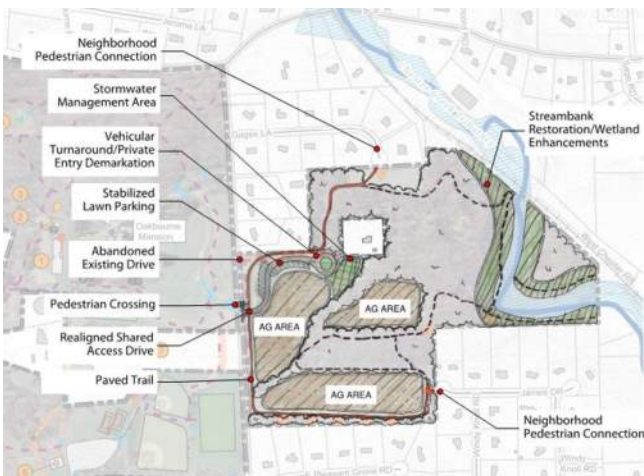
Athletic Core Working Concept



Mansion Core Working Concept



Cope Tract Working Concept



Cope Tract Overlay Concept



As part of the planning process, the overlay concept for the Cope Tract was presented. Although the primary recommendation was to continue to allow active farming and incorporate recreational elements around the existing agriculture, there was much concern regarding the “overlay” concept. Public comments from the meeting were summarized on the Township's webpage and subsequent emails following the meeting, documented in Appendix K.

Master Plan Overview

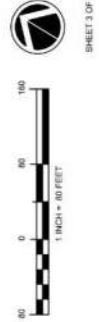
The Master Plan focuses on each of the core areas beginning with the Athletic Core, then the Cope Tract, followed by the Pond Core, and finally the Mansion Core. The Plan incorporates the vast views across the front lawn by removing overflow parking in this area and clustering overflow parking outside of prime usable open space. The trail system, totaling over 4 miles, includes multiple loops and crossovers that serve to provide pedestrian connectivity to all areas of the Park. There are 250 proposed paved parking spaces segmented into 4 key lots, each located close to the areas where patrons would want to park and conveniently walk to activities. A significant element of the Plan is the realignment of entry drive from South Concord Road to the Mansion Core, which results in separation of vehicular and pedestrian traffic, but more importantly removes parking from the immediate area adjacent to the Mansion, providing more usable space for programming, events, and activities associated with the Mansion.

1. **Athletic Core:** The Plan retains the general layout of the area, except for the relocation of the existing batting cage. Additional recreation facilities include a second basketball court, pickleball courts, tot lot, small shelter, and restroom building. The restroom building will be designed into the hillside and serve multiple functions, including storage and as an overlook/viewing area for the baseball field. The focal point of the design is the overlook plaza adjacent to the improved basketball court that will be designed to preserve and incorporate the existing barn foundation into a sitting and plaza space. The parking area will be formalized and a convenient pickup/dropoff area incorporated.
2. **Cope Tract:** The existing agricultural areas will continue to be farmed. To provide safe and convenient access to the existing trails a new realigned driveway is proposed, with 8 paved parking spaces, and stabilized overflow parking adjacent to the drive. The Community Gardens are shown to be relocated to this area and a small shelter and water services provided. It should be noted that the Community Garden cannot be relocated until such time as the agricultural areas are converted to meadows or other use that will not negatively impact the organic principles embraced by the Westtown Community Garden members. A new paved pathway is proposed along South Concord Road to provide a much-needed connection to the adjacent neighborhoods and the primary park areas on the west side of South Concord Road.
3. **Pond Core:** The existing pond will be improved to provide additional recreational uses, including fishing, while serving to address stormwater runoff. Wetland enhancements and educational signage and exhibits will be developed to support programming of the natural, cultural, and historical aspects of the site that are most evident in this portion of the park. Two ADA spaces are proposed along Dogwood Lane to provide ADA access and an accessible route to the proposed facilities located in this portion of the site.
4. **Mansion Core:** The focus of the design was to organize and define the usable spaces surrounding the Mansion by clustering like uses and separating vehicular and pedestrian areas to the greatest extent possible. The first area immediately surrounding the Mansion should be designed to reflect the design principles of the original landscape. Considerations should be given to redeveloping the formal gardens and incorporate the original fountain. The flagpole should be relocated to the Athletic Core to open and not distract from the views to and from the historic Mansion. The adjacent carriage house potentially can be converted to include public restrooms to serve the activities and events at the Mansion. A paved plaza adjacent to the carriage house will be developed to provide usable and flexible small group gathering space around the Mansion. The second area encompassing the existing pavilion and playground will be redesigned to include a signature iconic playground, nature-based play areas with overlooks and decks reaching out to the existing wood line, and two large pavilions to support group gatherings and activities. A strong pedestrian connection is proposed between these two areas via a 10-12-foot-wide pedestrian promenade to link the areas providing direct access to the carriage house restrooms. The promenade will also provide emergency and delivery access to the Mansion area.



OAKBOURNE PARK OVERALL MASTER PLAN
 JANUARY 2021





ATHLETIC CORE
JANUARY 2021

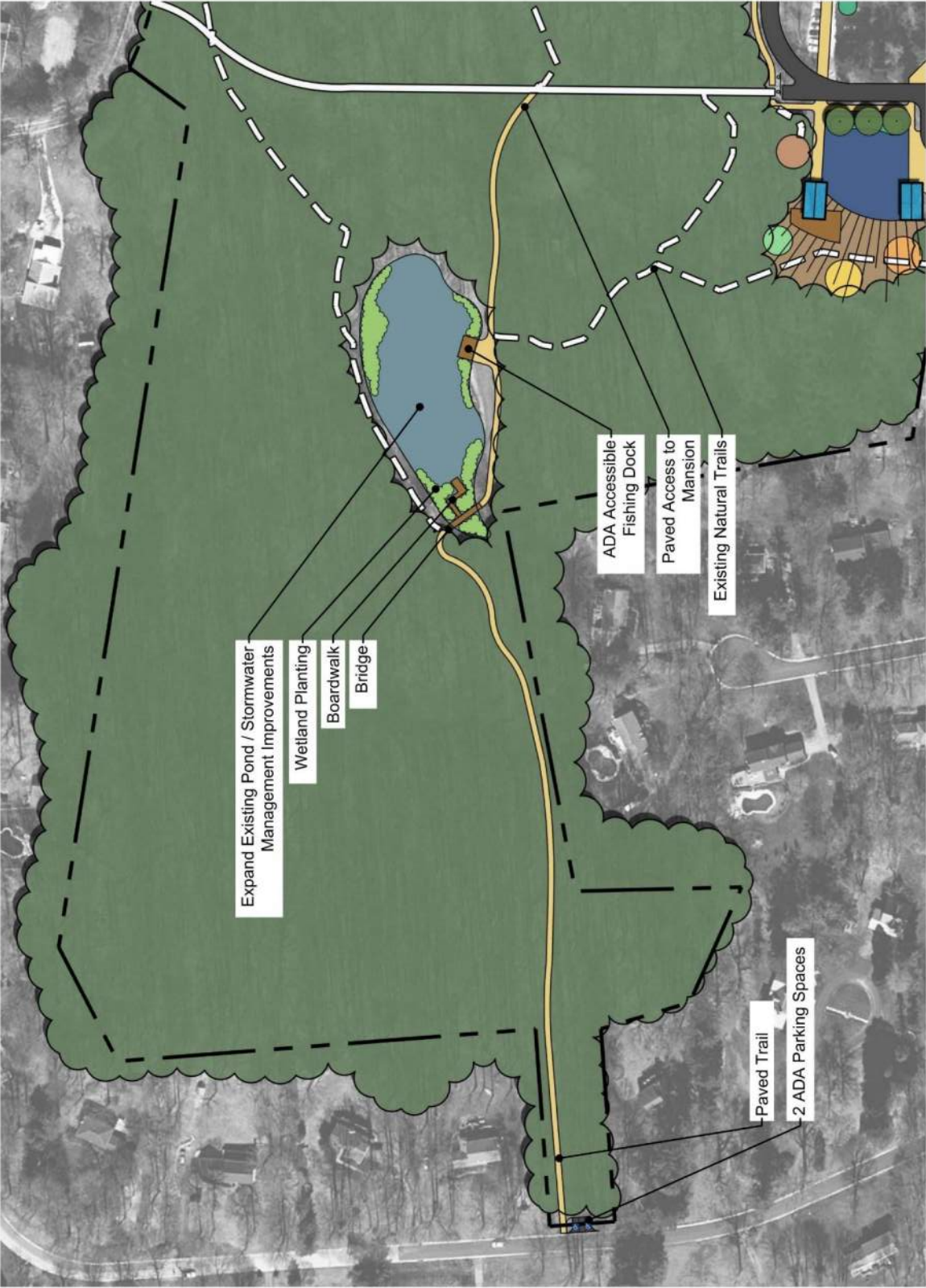
Turning Visions into Realities

50 YEARS

T O O L E Recreation Planning

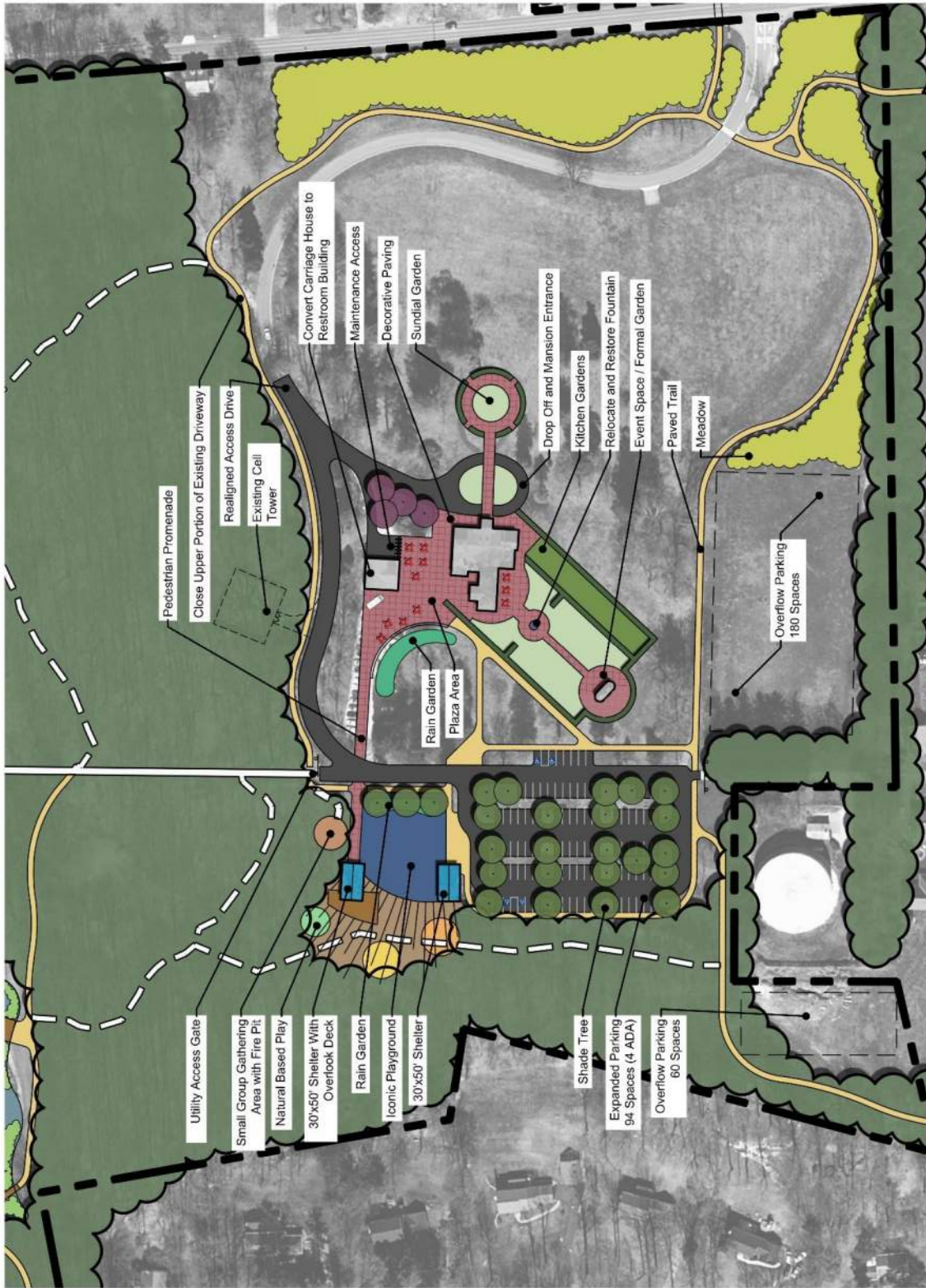
UNIVERSITY OF VIRGINIA





POND CORE
JANUARY 2021





SHEET 05

MANSION CORE
JANUARY 2021



Signature Features

The Master Plan proposes several new and significant features and experiences intended to support and compliment the stature of the Mansion.

Creative design and development of the proposed playground, basketball courts, and restroom buildings will support reimagining of basic park elements. These facilities should draw inspiration from the Park's historical and cultural context.

Iconic Themed Playground

A new imaginative play area is proposed to replace the existing traditional play structure. The play area will include both an iconic structure and natural play elements. The nature areas will straddle the edge of the existing woods and provide opportunities for children to connect and explore nature. Unstructured play in natural areas encourages increased creativity and imagination. Many recent studies show that unstructured outdoor play improves school performance, reduces stress and aggression, and promotes happier children. The area will be developed with natural elements including rocks, boulders, logs, woods, sand and water tables, and hills for rolling or tumbling. This playground should not employ traditional brightly colored steel and plastic structures.



- **Interactive Themed Playground**

- **Precedent Project**

- The Big Back Yard at the Science Museum of Minnesota
- “Welcome to our wondrous outdoor playground, er, we mean our educational interactive biodiversity and ecological exhibit”
- 9-hole miniature golf course where your ball represents a drop of water on its course from uplands through various landscape and finally into the sea



Basketball Courts

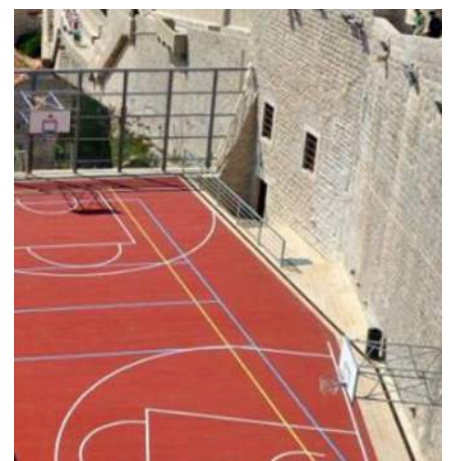
The barn ruins located adjacent to the existing basketball court will be integrated into seating and gathering areas to support the court expansion and serve as a unique backdrop to the courts. The courts will be like no other in the area, and provide a multifunctional space that can be used by all park visitors. Preservation of the ruins will also allow for future interpretation tied to the former uses of the Park.



Existing Court



Similar Barn Foundation

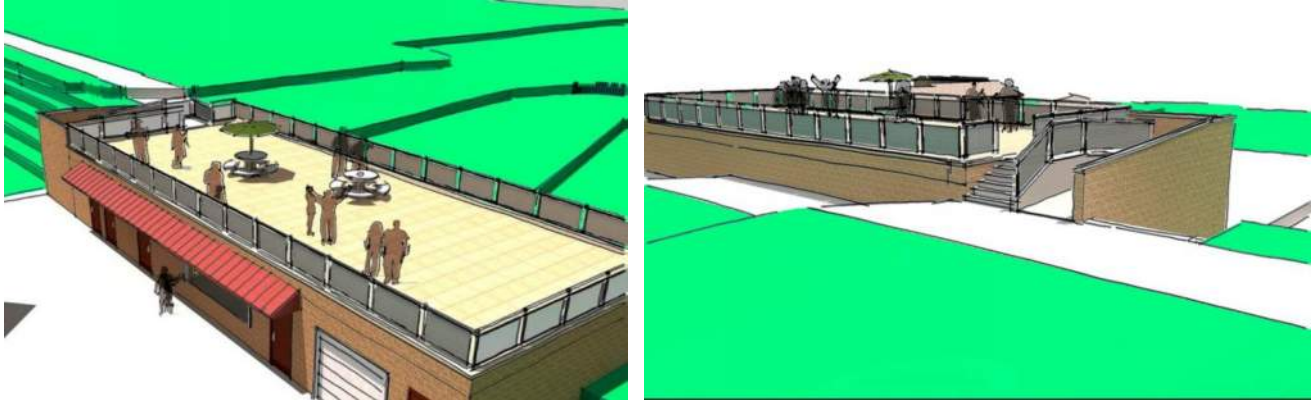


Court Next to Building

Source reference for image on right: <https://www.beintheart.com/coolest-basketball-courts-in-the-world/dubrovnik-court/>

Restroom Buildings

The renovation of the carriage house will provide public restrooms that is already in character with the Mansion Core in the northern portion of the Park. A new restroom building will be constructed within the Athletic Core to serve the southern area of the park. The building will be constructed into the hillside with access to storage and restrooms from below. The roof will be designed to serve as a plaza overlooking the recreational facilities.

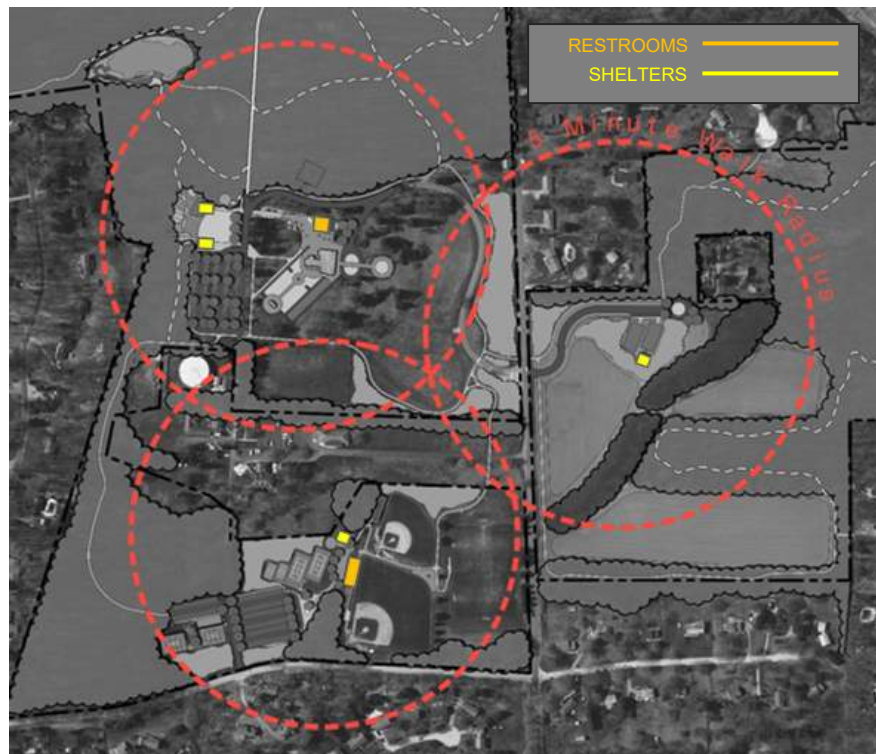


Design Guidelines

Design guidelines provide the basic structure that will drive the development of the Park and ensure that the vision is preserved. The guidelines outlined below address the primary improvements proposed, but are not comprehensive of every facility and improvement, and are not intended to serve as a design or engineering documents. Throughout the planning process several detailed and important recommendations were noted such as delineating planting beds around the Mansion, determining the structure and layout of the restrooms, and accounting for Cranes and heavy equipment that service the existing cell tower and water tower. While these and other factors such as delivery, maintenance, and emergency access are not specifically shown and delineated, they were considered in the general design and layout of the facilities. Pavement design and other specific engineering details and designs will be addressed in the next phase of planning as the design evolves.

Park Structures:

The location of the restrooms and shelters provide convenient access for maintenance and visual access for security patrols. Sanitary sewer, water, and electric service is located within close proximity to each structure and can be connected to the building. The restrooms should be designed to align with the Restroom Equity Regulations Act of 1990 and designed to comply with the ADA requirements. All four of the core areas of the Park are located fewer than five minutes from a shelter, and all but the Cope Tract is located fewer than five minutes from a restroom building. The Cope Tract is within a ten-minute walk of the restrooms at the Athletic and Mansion Cores.



Universal Accessibility and Circulation:

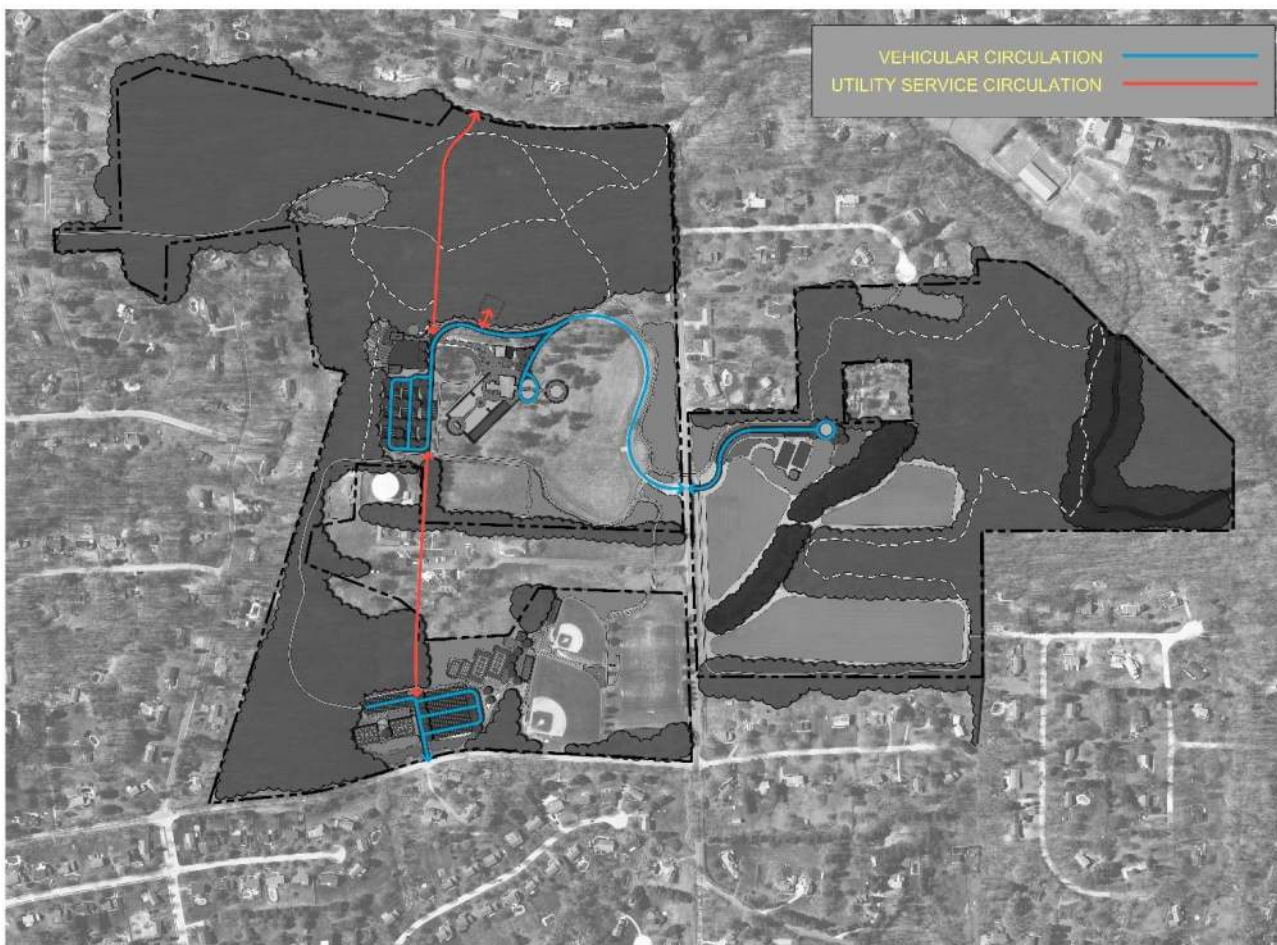
The points of entry to the Park set the tone for what the visitor is about to encounter and make a lasting impression. The access points should cater to both vehicles and cyclists/pedestrians reaching each site. However, the site is primarily accessed by vehicles due to lack of defined pedestrian connections within the Township and in adjacent neighborhoods. The primary access zone to the Mansion Core identifies the Park from the adjacent roadways and properties, has a clear and designated entry signage, and visual cues for destinations and parking. The same treatments should be provided to the access drive leading to the Athletic Core and the Cope Tract access point aligned with the existing park entrance.

Paved trails must be developed to meet the design requirements of the Americans with Disabilities Act (ADA). The U.S. Architectural and Transportation Barriers Compliance Board adopted specific guidelines for accessibility for natural areas titled: Recommendations for Accessibility Guidelines: Outdoor Developed Areas. These guidelines apply to all newly design and constructed pedestrian trails. They require compliance with the ADA, but permit departures from the specific technical provisions where certain conditions exist. The trails will be designed to accommodate emergency and maintenance vehicles, as necessary.

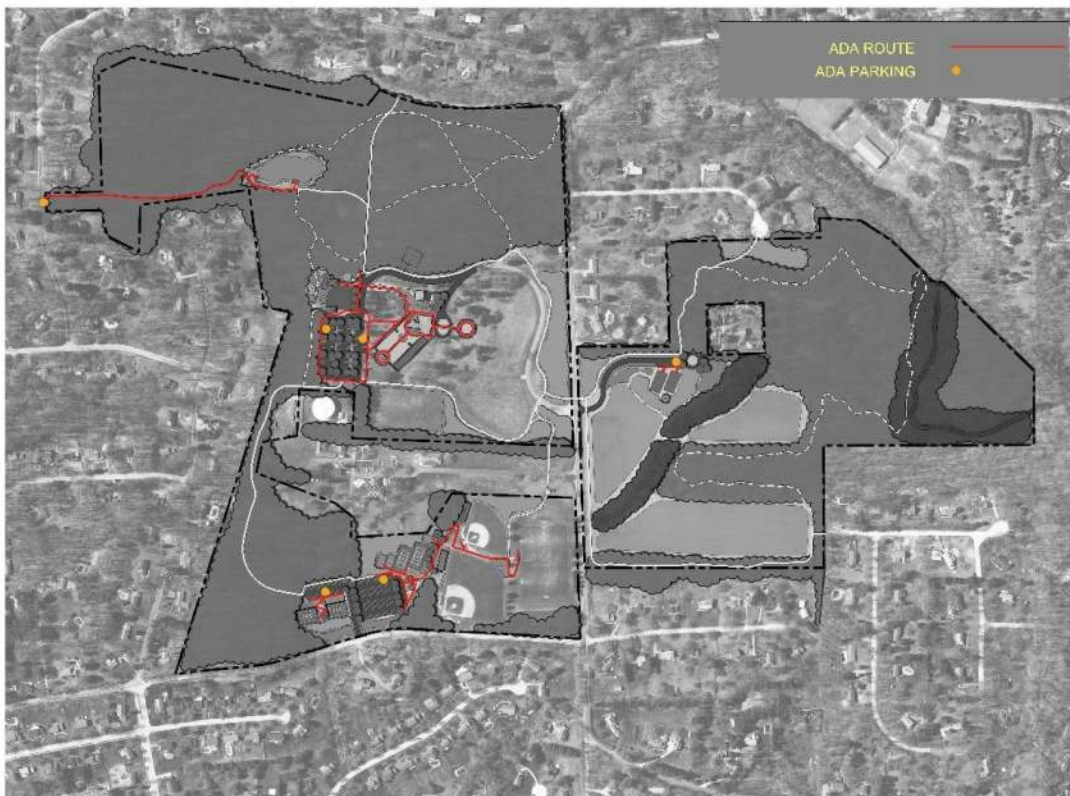
A key plan component is the delineation of the visitor arrival sequence, particularly at the Mansion Core, where the primary vehicular access has been relocated around the immediate area surrounding the Mansion.

The Plan offers a greater variety of options for people to navigate between destinations, encouraging more walking and biking. Some of these options include:

- An expanded trail network, with connecting destinations that provide viable alternatives to driving.
- Trail loops that are well-signed for distance walker/runners.
- Story Trail and nature trails marked with interpretive signage.



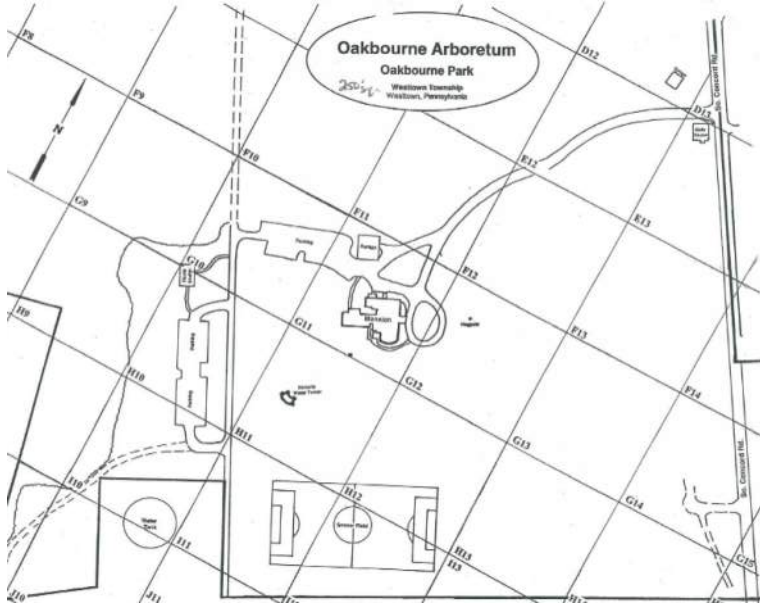
- New formal connections to adjacent neighborhoods.
- A boardwalk and pedestrian bridge at the Pond Core.
- Safe pedestrian crossing of South Concord Road to provide access to the Cope Tract and link the adjacent neighborhoods to the core areas of the Park.



Tree and Vegetation Management

The preservation of the existing trees has always been a high priority for the Township as outlined in the 2002 Forest and Tree Stewardship Plan and by the recent designation of the park as an accredited arboretum. (see Appendices I and J).

The Township should consider an update to the Forest and Tree Stewardship plan to ensure the maintenance program is current in maintaining the health of the existing and newly planted trees.



Streambank Restoration within the Cope Tract

The unnamed tributary system that traverses the site is in a state of both vertical and lateral degradation, most likely a result of increased runoff, historic land use practices, including agricultural and timbering activities. In addition to these past practices and more recently (within the past 80 years), the stream has been highly altered, channelized, and manipulated.

Streambank restoration activities are warranted along the unnamed tributary. These improvements would include restoring the stream and riparian corridor functions through stream and floodplain restoration. This approach would include the re-establishment of a functional floodplain along major sections within, and potentially above and below, the Park that would provide additional habitat for a diversified aquatic community. In addition to providing environmental water quality benefits for the downstream receiving waterbody, there may be an opportunity for the Township to take advantage of the water quality credits created by the restoration activities to assist them with meeting either present and/or future Municipal Separate Storm Sewer System (MS4) permit requirements.



The preliminary cost estimate for implementing this type of streambank restoration improvement plan would range between \$500,000 - \$800,000. In order to consider this restoration approach, there are a suite of funding sources within Pennsylvania, including the Department of Environmental Protection, Department of Economic Development, and Department of Conservation and Natural Resources, as well as private funding entities including the Chesapeake Bay Program, Western Pennsylvania Conservancy, and the National Fish and Wildlife Foundation.

Orientation and Wayfinding

All site signs must represent current standards and take a comprehensive approach in order to develop a consistent and attractive means to display regulatory and park related information. A signage system should be developed with a hierarchy designed to convey the image of a quality recreation facility and communicate necessary information.

Proposed signage includes:

- Park Entrance Sign / Funding Acknowledgement Sign – Intended to delineate the Park’s secondary entry to the Athletic Core and should be located with good visual access from East Pleasant Grove Road.
- Information Kiosk – Provide information about the Park including park policies, park and trail maps, community announcements, special events and program calendar, etc. Locate the kiosk at key pedestrian access and gathering areas of the Athletic and Mansion Cores and also at the Cope Tract.
- Directional Trail Signs – To identify direction and distance to points of interest.
- Interpretive Signs – To provide environmental education, historic, cultural, and general interest information.

A Signage System for Regional Park

Sign Type	Sign Purpose	Sign Location
Park Entrance Signs	Identify the park’s entrances and owner.	Entrances to parking areas.
Mile Markers	Identify location on a trail (mile indication visible from both sides of the marker).	At quarter mile intervals along the trails.
Interpretative Signs	Provide historical, environmental, education and general interest information.	At points of interest in the park and along the trails.

Sign Guidelines

Vandal Resistant	Utilize materials such as phenolic resin panels (no frame required) or fiberglass embedded panels (frame required) which resist abrasions, graffiti, solvents, etc.
Weather Resistant	Utilize materials that will not fade or otherwise degrade from sunlight, moisture, or the freeze/thaw cycle.
Meet PennDOT Regulations	Along PennDOT roadways use standard signs.
Promote Consistent Image	Develop a “family” of graphics (logo, font, colors, etc.) that will be used on signs throughout the park to unify the site.
Graphics	Utilize maps, graphic illustrations and photographs, and text to communicate the intended message.
Maps	Include maps at key locations throughout the park (main activity areas, trailheads, etc.) to orient the visitor.

Pavilions – Picnic pavilions of various sizes are proposed throughout the Park. The pavilions must be designed to comply with the ADA. Pavilions are proposed to complement other use areas as follows:

- Two large pavilions (75+/- people) are located within the play area to provide a picnic facility for large groups and special events. The first is located close to the play area and group gathering area with firepit, while the other is located just south of the play area with convenient access to the main parking area. Both pavilions will include picnic tables, grills, and provide shelter for park users.
- A small pavilion (8-16 people) is located between the tennis courts, restroom building, and tot lot within the Athletic Core. This pavilion will include picnic tables.
- A small pavilion (8-16 people) is located on the Cope Tract to serve primarily as shelter for the proposed garden area. This shelter will also serve as a trailhead with park directional signage and gathering space for the park providing shade for trail users.
- All pavilions will provide convenient access to the trail system.

Basketball Court

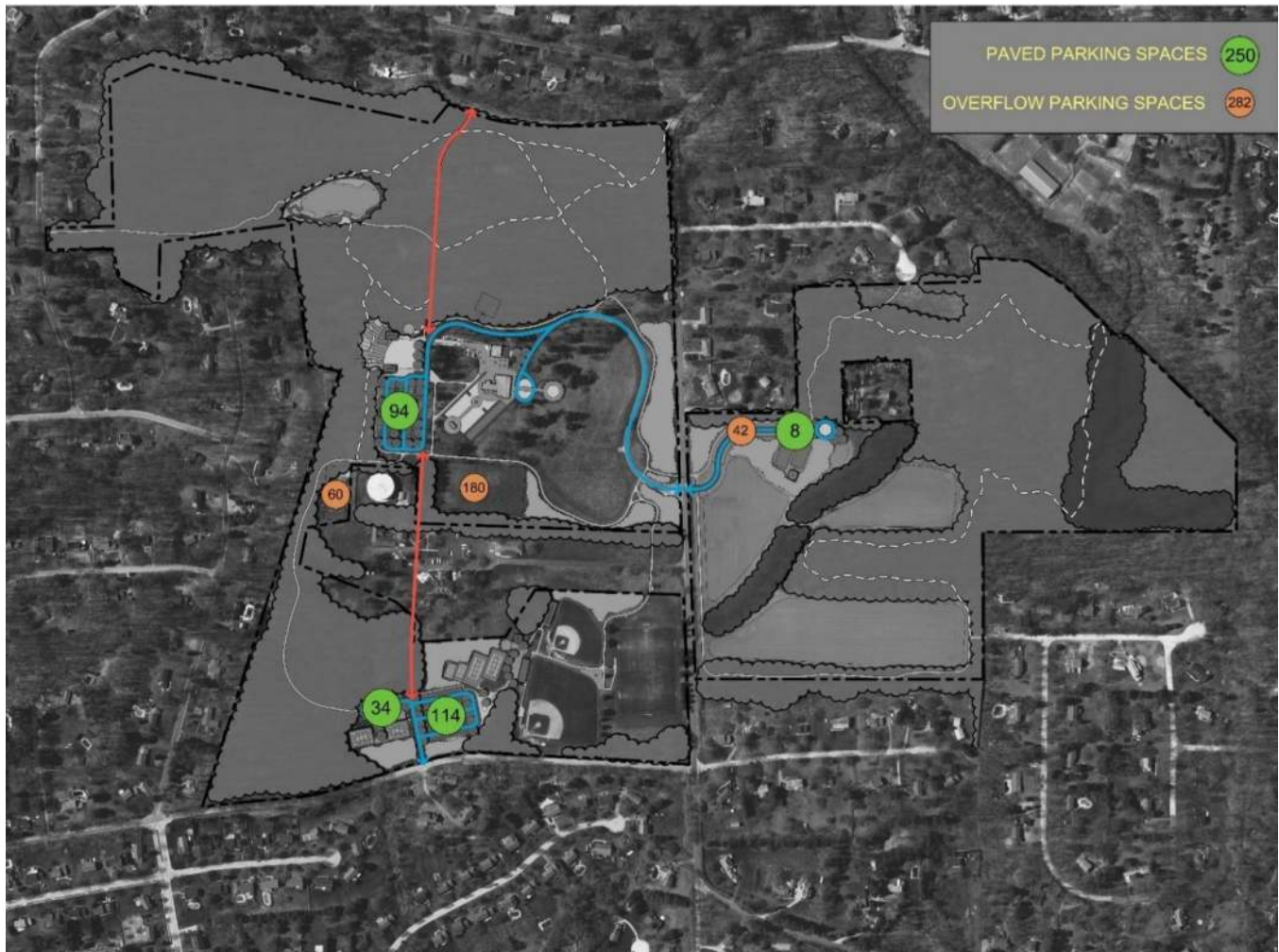
A new basketball court will be developed, and the existing court upgraded to current standards. The courts will be developed at 50' x 84', which is the standard PIAA (Pennsylvania Interscholastic Athletic Association) dimensions for a high school basketball court. A ten-foot unobstructed area is provided on all sides of the court area, as recommended. The courts should be developed with 1.25-1.5 percent slope for proper surface drainage. The existing conditions prohibit the court to be developed at the preferred north/south orientation.

Tennis and Pickleball Courts

The existing tennis courts will be renovated and resurfaced to provide better playability. New walkways and ADA accessible routes are defined. The existing courts are close to the preferred north/south orientation. The pickleball courts will be developed adjacent to the tennis courts, and will match the orientation and should be developed with 1.25-1.5 percent slope for proper surface drainage.

Parking

The proposed parking lots are conveniently located in each of the core areas and provide appropriate number of accessible parking spaces, good access, and visibility to all areas of the Park. Overflow areas have been anticipated and strategically located to not interfere with normal day to day park activities.



Meadows

Conversion of mowed lawn areas to meadow in strategic areas of the Park is recommended to reduce maintenance costs, enhance wildlife, but more importantly provide continuity and visual linkages between the various core areas. Native wildflowers and warm season grasses are recommended for use throughout the Park to provide visual interest, provide cover and food for wildlife, and lower the ongoing maintenance cost of mowing. The use of species native to Chester County is suggested. Patience is required when establishing warm season grasses and wildflowers. Many wildflowers will not bloom until their second year of growth. Four-to eight-foot-wide strips of maintained lawn areas should be provided adjacent to the meadow areas to create a visually pleasing transition to the meadow. Because wildflowers and native grasses have a different appearance in the landscape, it is a good idea to inform park visitors about their use and the landscape and environmental goals for the site. Signs should be placed in the meadows and native grass areas to describe the planting, growing process, and environmental benefits.



Iconic Play Element, Natural Playscape with Overlook Deck

The iconic play element and the natural playscape is located within the heart of the Park, centrally located between two large pavilions. The sloped and wooded terrain offers an exceptional opportunity to develop a natural playscape to promote creative, educational, and experimental play. The playscape will include traditional play structures such as climbers, swings, and slides, but developed with natural materials. The central focal point of the playscape is envisioned to be a raised deck/platform overlooking and connecting to both the iconic play element and the nature-based play area. The raised deck will enhance the interpretive aspects of the wooded setting and promote a general appreciation of nature.

Reference should be made to the following:

- American Society for Testing and Materials F1487-05
- Consumer Product Safety Commission
- Guidelines for Public Playground Safety

- The playgrounds must be accessible via accessible pathways and all play equipment and should offer varied play options.
- The playground overall must comply with the Americans with Disabilities Act (ADA).

Fishing Pond

There is interest in expanding fishing opportunities at the pond, which has been historically used for that. This facility in combination with stocking will create an inviting facility and present opportunities for education, events, and programming.

The existing pond appears to be a combination excavated and embankment pond that is fed by natural groundwater. The pond currently supports several species of fish and should be stocked with other varieties to enhance the fishing opportunities and to provide a functioning ecosystem that will support the intended recreational use.

An assessment of the fish population should be conducted to determine the size and species to be stocked.

Boardwalk/Bridge

Boardwalks will connect to the park trail system providing continuous access while overlooking and preserving the wetlands and existing pond. Boardwalks will allow access to park amenities and minimal disturbance of wetlands during seasonal ponding. Opportunities for signage and interpretive stations will be located to provide the opportunity to educate park visitors and provide deeper understanding of wetlands, site specific ecosystems, and sustainable practices.

Utilities

The existing facilities are already connected to public utilities. Public water, sewer, and electric service is readily available at the Park. It is recommended that security lighting for parking areas and pavilions be installed. Sport field, court lighting, or perimeter trail lighting is not recommended at this time, but may be a future consideration.

Stormwater Management

The existing Park does not currently have any visible stormwater management facilities, which will be required for any proposed improvements to capture, manage, and treat increased runoff associated with the redevelopment and expansion. The Park is within a watershed governed by an approved Act 167 Stormwater Management Plan; therefore, additional coordination with Chester County will be required to ensure that any proposed activities comply with the stormwater management requirements. In addition, the Township is part of PADEP's Municipal Storm Sewer System Permit (commonly referred to as the MS-4) and is subject to the requirements of a National Pollutant Discharge Elimination System (NPDES) permit issued through the PADEP and US EPA.

Landscaping

Where landscaping is incorporated into the site, the use of native plant materials should be promoted. Plant material native to the County is adapted to the geographic location and, as a result, will require less maintenance, withstand the extremes in climate change, be less susceptible to disease and pests, and propagate naturally. Well-designed landscaping can lower maintenance requirements. Elements such as signs, light posts, and rock boulders throughout the Park should be placed within landscaped areas. Entrances to the main activity areas should be attractively landscaped with a signature design that designates the area as the entrance to a park facility.

Landscaping should also be introduced to solve problems, and enhance the visual image and functions of the park. Plantings should provide visual interest, promote native wildlife, enhance the image of the park, separate uses, provide areas of shade, reduce maintenance needs, and buffer surrounding landowners. They should also be designed to:

- Facilitate connectivity of vegetative cover.
- Reduce the edge effect of scattered pockets of vegetation which dilute the ecological function and value.
- Buffer sensitive natural resources.

- Improve water quality.
- Enhance settings for environmental education exhibits and programs.
- Mitigate and restore eroded areas, areas of invasive species, or other degraded areas.
- Facilitate the circulation and visitor activities in public use areas.

Memorials

The location for a memorial space was not defined in the current Plan. Any memorial space considered must be treated with respect in both the design and placement and must fit in with the overall vision for the Park. If any memorial is to be considered at the Park, it should have ties to the historical and cultural context and be located outside of the Mansion Core and not interfere with the view from the Mansion.

The following policy statement provided by the American Society of Landscape Architects offers some insights and guidance on placing memorials in the public realm.

- **Policy Statement**

The American Society of Landscape Architects (ASLA) believes that well-sited and designed memorials enrich our cultural heritage by recognizing significant events, places, and people within the public realm. ASLA supports a rigorous review and approval process for proposed memorials with sensitivity to design, content, and placement. The design of sculptures, structures, fountains, and other forms of commemoration should respect the physical and cultural environment while providing opportunity for education, celebration, or healing. Siting memorials in public spaces should be done with careful and deliberate review to help ensure the preservation of the public realm, respect of the significance of the proposed memorial, and its relationship to any existing memorials. ASLA also supports informed debate among members of the public, as facilitated by government agencies, to review and potentially alter memorials under evolving common understandings of equity, inclusion, and safety.

- **Rationale**

Memorials, often held for the public trust in perpetuity, help form a community consciousness regarding significant events, places, and people. When the availability of public open space becomes limited, its value toward a community's overall health and well-being increases. Additionally, when places become over occupied with such structures and other forms of commemoration, public spaces can readily be diminished, as can memorials. Nevertheless, careful and deliberate review of memorial design and placement can ensure the preservation of public open space as a primary consideration and can evaluate the individual memorial's impact, as well as the cumulative consequences of including multiple memorials in a public space. Such a process ensures that well-sited and designed memorials enrich the public realm.

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Implementation and Costs Analysis



Introduction

Phasing scenarios were developed for the Park and can be implemented individually or collectively. Typically, park development is completed in modules based on community need, funding opportunities, logical sequences of construction, and considerations for how the park will function. Implementation strategies for the park development modules are independent on the park's management structure and ability to secure funding. The sequence of the development can change as funding becomes available, if needs change in the community, or if opportunities present themselves. During the plan's implementation period, it is important for the Township to remain flexible and adapt to these changes as they move forward with implementation of the Plan.

Implementation and Development Phasing

Each module should be viewed as a recommendation for development planning and capital programming. The module development sequence outlined was recommended to first address universal accessibility, user safety, needs, comfort, expand recreation opportunities, and address stormwater runoff and management.

The Athletic Core is recommended as the initial module for redevelopment. It is the most intensely utilized area of the Park, and contain the most deficiencies. Improvements in this area will have an immediate impact in addressing park deficiencies, while also providing new recreation opportunities. The existing and proposed facilities within the Athletic Core support a diverse park user base including tots, children, teens, adults, and seniors. The Cope Tract is recommended as the second module for development. The entry drive re-alignment, parking, and trail connections will provide a safe connection between the two park areas and promote pedestrian connectivity to the adjacent neighborhoods and other primary activity areas. The proposed improvements will serve to identify the Cope Tract as part of the Park and open an area of the Park that is underutilized. The Pond Core and Mansion Core have been identified respectively as Module 3 and Module 4. These modules are interchangeable and could most likely be developed simultaneously to address stormwater management within the historic core of the park.

Development Cost Projections Summary

The development cost projections are important decision-making tools. They are essential to future fund-raising and finance efforts as well as to making decisions on priorities and next steps. A development project of the scale/complexity of Oakbourne Park will likely need to be constructed in stages or modules that span a period of years as previously noted.

The following outlined budget estimate assumes that each identified module will be developed independently. Developing multiple modules simultaneously would result in cost savings. The Plan is a 10 to 20-year planning tool as reflected by the development phasing.

Module 1: (1-5 years)	Module 2: (5-10 years)	Module 3: (10-15 years)	Module 4: (15-20 years)
Athletic Core	Cope Tract	Pond Core	Mansion Core
Estimate: \$3.8-4.2MM	Estimate: \$1.8-2.0MM	Estimate: \$0.6 – 0.7MM	Estimate: \$4.75-5.25MM

The total cost for implementation is approximately \$11-12MM. This total does not include the additional costs associated with the overlay concept for the Cope Tract, which is estimated between 0.53-0.58MM. Please refer to the Estimate of Probable Development Costs exhibits found at the end of this chapter for a more detailed description of the proposed Park improvement costs associated with each Module.



Module 1-Athletic Core

- 2 new pickleball courts.
- Central plaza with relocated flagpole.
- Defined new accessible route, walkways, and steps to existing multi-purpose field.
- New restroom building with storage and integrated viewing platform.
- Improved and expanded parking areas with defined ADA spaces and accessible routes to existing and proposed facilities.
- New basketball court and overlook plaza.
- Tennis court improvements.
- Relocated batting cages.
- Stormwater management facilities.

Module 2-Cope Tract

- Existing trail Improvements.
- Defined loop trail and connectivity to adjacent neighborhoods.
- Streambank stabilization and stormwater management improvements.
- New community gardens.
- Establishment of perimeter meadows.
- Small group pavilion.
- Realigned entry drive and designated parking area with defined ADA spaces.
- Pedestrian crossing and linkage to existing trail network.
- Stabilized overflow parking areas.
- Vehicular turnaround and private drive demarcation.

Module 3 – Pond Core

- Expanded pond and stormwater management improvements.
- Wetland enhancements.
- Pedestrian boardwalk and bridge improvements and expansion.
- New assessable fishing dock.
- Paved trail connection to the Mansion Core.
- Designated ADA parking and accessible route to the pond.

Module 4- Mansion Core

- Realigned access drive.
- Carriage house conversion to restroom.
- Garden improvements.
- Pave plaza and entry treatments.
- Designated overflow parking.
- 2 large multi-purpose shelters and overlook deck.
- New group gathering area and fire pit.
- Nature based play area.
- Iconic playground.
- Relocation of historic fountain and creation of event space.
- Expanded parking areas, defined ADA spaces, and accessible routes.
- Defined maintenance and delivery access.

Oakbourne Park Module 1 - Athletic Core

Budget Estimate

DATE: January, 2021

ITEM	DESCRIPTION	EST. QTY.	UNITS	UNIT PRICE	TOTAL COST
A.	Site Improvements				
A.1	General Requirements				\$247,883
A.1.1	Bond, Mobilization	1	LS	\$230,483	\$230,483
A.1.2	Survey/Construction Layout	10	DAY	\$1,000	\$10,000
A.1.3	Testing	1	LS	\$3,000	\$3,000
A.1.4	Submittals/Shop Drawings	12	MONTH	\$300	\$3,600
A.1.5	Project Sign	1	EA	\$800	\$800
A.2	Site Preparation and Demolition				\$42,500
A.2.1	Clearing and Grubbing	4	AC	\$3,000	\$12,000
A.2.2	Remove Trees	1	LS	\$20,000	\$20,000
A.2.3	Strip and Stockpile Topsoil (6" deep)	3,500	CY	\$3	\$10,500
A.3	Erosion and Sedimentation				\$75,000
A.3.1	Soil Stabilization and Controls	1	LS	\$75,000	\$75,000
A.4	Earthwork				\$52,000
A.4.1	Bulk Excavation and Fill				
A.4.1.1	Bulk Cut (Common Earth)	8,000	CY	\$3	\$20,000
A.4.1.2	Bulk Fill (Common Earth)	8,000	CY	\$4	\$32,000
	<i>Balance:</i>	0	CY		
A.5	Site Concrete Construction				\$529,720
A.5.1	Concrete Pavement				
A.5.1.1	Walks	5,500	SF	\$9	\$49,500
A.5.1.2	Shelter Pad	1,250	SF	\$12	\$15,000
A.5.1.3	Dumpster Pad	225	SF	\$12	\$2,700
A.5.2	Concrete Unit Pavers (Decorative Paving)				
A.5.2.1	Flag Pole Area	4,000	SF	\$16	\$64,000
A.5.2.2	Building Plaza Area	5,800	SF	\$16	\$92,800
A.5.2.3	Basketball Area	3,800	SF	\$16	\$60,800
A.5.3	Aggregate Paver Base				
A.5.3.1	Flag Pole Area	4,000	SF	\$4	\$16,000
A.5.3.2	Building Plaza Area	5,800	SF	\$4	\$23,200
A.5.3.3	Basketball Area	3,800	SF	\$4	\$15,200
A.5.4	Concrete Steps				
A.5.4.1	Steps with Cheek Wall (Stair A)	25	RISER	\$280	\$7,000
A.5.4.2	Steps with Cheek Wall (Stair B)	18	RISER	\$280	\$5,040
A.5.4.3	Steps with Cheek Wall (Stair C)	18	RISER	\$280	\$5,040
A.5.4.4	Steps with Cheek Wall (Stair D)	8	RISER	\$280	\$2,240

	A.5.4.5	Steps with Cheek Wall (Stair E)	15	RISER	\$280	\$4,200
A.5.5		Concrete Curb	2,000	LF	\$35	\$70,000
A.5.6		Concrete ADA Ramp	3	EA	\$2,000	\$6,000
A.5.7		Concrete Retaining Wall (Basketball)	140	CY	\$650	\$91,000
A.6		Bituminous Pavement				\$532,680
A.6.1		Parking Area				
	A.6.1.1	Bituminous Paving and Base	6,900	SY	\$40	\$276,000
	A.6.1.2	Pavement Markings/Stalls	148	EA	\$10	\$1,480
	A.6.1.3	Traffic Control Signage	3	EA	\$400	\$1,200
A.6.2		8 ' Wide Bituminous Walkways				
	A.6.2.1	Bituminous Paving and Base	3,400	SY	\$50	\$170,000
A.6.3		Basketball Courts				
	A.6.3.1	Bituminous Paving and Base	1,500	SY	\$40	\$60,000
A.6.4		Pickleball Courts				
	A.6.4.1	Bituminous Paving and Base	600	SY	\$40	\$24,000
A.7		Storm Drainage				\$445,000
A.7.1		Stormwater Management	1	LS	\$225,000	\$225,000
A.7.2		Stormwater Basin	1	EA	\$60,000	\$60,000
A.7.2		Rain Garden	2	EA	\$30,000	\$60,000
A.7.3		Existing Basin Retrofit	1	LS	\$100,000	\$100,000
A.8		Landscaping				\$49,300
A.8.1		Spread Topsoil, Fine Grade, Fertilize	3,500	CY	\$3	\$10,500
A.8.2		Seeding				
	A.8.2.1	Lawn / General	30,000	SF	\$0.11	\$3,300
	A.8.2.2	Upland Meadow	75,000	SF	\$0.25	\$18,750
A.8.3		Street/Parking Area Trees	20	EA	\$500	\$10,000
A.8.4		Ornamental Trees	10	EA	\$250	\$2,500
A.8.5		Ornamental Shrubs	50	EA	\$85	\$4,250
A.8.6		Rain Gardens	1	LS	\$15,000	\$15,000
A.9		Site Amenities				\$47,300
A.9.1		Picnic Tables (4 ADA)	8	EA	\$2,000	\$16,000
A.9.2		Plaza Tables	8	EA	\$1,800	\$14,400
A.9.3		Benches	6	EA	\$1,200	\$7,200
A.9.4		Trash Receptacle	4	EA	\$800	\$3,200
A.9.5		Jug Filler / Water Fountain	1	EA	\$5,000	\$5,000
A.9.6		Bicycle Rack	3	EA	\$500	\$1,500
A.10		Tot Lot				\$68,437
A.10.1		Play Equipment (2-5 Year Old)	1	LS	\$40,000	\$40,000
	A.10.1.1	Play Equipment Installation	1	LS	\$20,000	\$20,000
A.10.2		Edging	150	LF	\$15	\$2,250
A.10.3		Underdrain	50	LF	\$31	\$1,525
A.10.4		Safety Surface (Mulch)	65	CY	\$43	\$2,795
A.10.5		Stone Base and Filter Fabric	180	SY	\$10	\$1,867

A.11	Basketball Courts				\$33,900
A.11.1	Posts, Goals and Nets	4	EA	\$3,700	\$14,800
A.11.2	6' High Chain Link Fence	300	LF	\$42	\$12,600
A.11.3	Court Painting	1	LS	\$1,500	\$1,500
A.11.4	Preserve Existing Ruins (Wall)	1	LS	\$5,000	\$5,000
A.12	Pickleball Courts				\$31,400
A.12.1	Posts and Nets	2	EA	\$1,000	\$2,000
A.12.2	8' High Chain Link Fence	380	LF	\$50	\$19,000
A.12.3	Court Surfacing	5,200	SF	\$2	\$10,400
A.13	Miscellaneous Site Improvements				\$141,900
A.13.1	Site Identification Sign	1	EA	\$5,000	\$5,000
A.13.2	Relocate Flag Pole	1	EA	\$5,000	\$5,000
A.13.3	Removable Bollards	4	EA	\$350	\$1,400
A.13.4	Parking Lot - Utility Access Gates	2	EA	\$2,500	\$5,000
A.13.5	Concrete Wheel Stops	6	EA	\$250	\$1,500
A.13.6	Ramp Handrail	310	LF	\$125	\$38,750
A.13.7	Step Handrail	160	LF	\$125	\$20,000
A.13.8	Guardrail	125	LF	\$150	\$18,750
A.13.9	Resurface Existing Tennis Courts	15,500	SF	\$3	\$46,500
Subtotal Site Improvements (A):					\$2,297,020
B.	Structures				
B.1	Structures				\$559,000
B.1.1	Storage, Viewing and Restroom Building	2,500	SF	\$200	\$500,000
B.1.2	30'x30' Pavilion	1	EA	\$36,000	\$36,000
	B.1.2.1 Pavilion Installation	1	EA	\$18,000	\$18,000
B.1.3	Relocate Batting Cage	1	LS	\$5,000	\$5,000
Subtotal Structure Improvements (B):					\$559,000
C.	Water Service Improvements				
C.1	Water Service				\$35,000
C.1.1	On Site Water Service Improvements	1	LS	\$35,000	\$35,000
Subtotal Water Service Improvements (C):					\$35,000
D.	Utilities				
D.1	Utility Connections				\$50,000
D.1.1	Sanitary Line	1	LS	\$50,000	\$50,000
Subtotal Utility Relocation Improvements (D):					\$50,000

E.	Electric					
E.1	Site Electric				\$170,500	
	E.1.1	Utility Power Extension	1	LS	\$50,000	\$50,000
	E.1.2	Service Panel and Meter	1	LS	\$10,000	\$10,000
	E.1.3	Receptacle Pedestals	1	LS	\$3,500	\$3,500
	E.1.4	Security Lighting	1	LS	\$10,000	\$10,000
	E.1.5	Walkway Lighting	1	LS	\$40,000	\$40,000
	E.1.6	Wiring and Conduit	1	LS	\$15,000	\$15,000
	E.1.7	15' Pole Lighting	12	EA	\$3,500	\$42,000
Subtotal Electric Improvements (E):						\$170,500
SUBTOTAL (A-E):						\$3,111,520
10% DESIGN CONTINGENCY:						\$311,152
TOTAL PROBABLE COST (BASE BID):						\$3,422,671
1	Professional Design Fees			10%		\$342,267
2	Construction Contingency Fund			5%		\$171,134
3	Miscellaneous Costs			2.5%		\$85,567
	Includes but is not limited to:					
	Site Surveying, Test Borings, Sink Hole Investigation,					
	Builders Risk Insurance, Building Permit,					
	Labor and Industry Fee, Document Printing,					
	Construction Testing, Storm Water Permit					
4	Total Soft Costs			17.5%		\$598,968
TOTAL PROJECT ESTIMATE						\$4,021,639

Note: Probable cost for site work does not include the following:

1. Rerouting gas, CATV, or phone lines. Additional improvements as may be required by municipal or other reviewing agencies having jurisdiction
2. Utility service and or connection fees.
3. Interpretive signage design.
4. Removal of unsuitable materials, sink hole remediation, or on lot disposal system designs.
5. Irrigation of athletic fields, and water reels
6. Project financing costs
7. Water Meter Pit and Tap cost are not included.

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Oakbourne Park Module 2 - Cope Tract

Budget Estimate

DATE: January, 2021

ITEM	DESCRIPTION	EST. QTY.	UNITS	UNIT PRICE	TOTAL COST
A.	Site Improvements				
A.1	General Requirements				\$126,208
A.1.1	Bond, Mobilization	1	LS	\$110,008	\$110,008
A.1.2	Survey/Construction Layout	10	DAY	\$1,000	\$10,000
A.1.3	Testing	1	LS	\$3,000	\$3,000
A.1.4	Submittals/Shop Drawings	8	MONTH	\$300	\$2,400
A.1.5	Project Sign	1	EA	\$800	\$800
A.2	Site Preparation and Demolition				\$17,000
A.2.1	Clearing and Grubbing	2	AC	\$3,000	\$6,000
A.2.2	Remove Trees	1	LS	\$5,000	\$5,000
A.2.3	Strip and Stockpile Topsoil (6" deep)	2,000	CY	\$3	\$6,000
A.3	Erosion and Sedimentation				\$30,000
A.3.1	Soil Stabilization and Controls	1	LS	\$30,000	\$30,000
A.4	Earthwork				\$32,500
A.4.1	Bulk Excavation and Fill				
A.4.1.1	Bulk Cut (Common Earth)	5,000	CY	\$3	\$12,500
A.4.1.2	Bulk Fill (Common Earth)	5,000	CY	\$4	\$20,000
	<i>Balance:</i>	0	CY		
A.5	Site Concrete Construction				\$15,000
A.5.1	Concrete Pavement				
A.5.1.1	Shelter Pad	1,250	SF	\$12	\$15,000
A.6	Bituminous Pavement				\$274,080
A.6.1	Parking, Shared Access Drive, Turnaround and Turn Lane				
A.6.1.2	Bituminous Paving and Base	2,800	SY	\$40	\$112,000
A.6.1.3	Pavement Markings/Stalls	8	EA	\$10	\$80
A.6.1.4	Traffic Control Signage	4	EA	\$500	\$2,000
A.6.2	8' Wide Bituminous Walkways				
A.6.2.1	Bituminous Paving and Base	3,200	SY	\$50	\$160,000
A.7	Storm Drainage				\$165,000
A.7.1	Stormwater Management	1	LS	\$75,000	\$75,000
A.7.2	Stormwater Basin	1	EA	\$60,000	\$60,000
A.7.3	Rain Garden	1	EA	\$30,000	\$30,000

A.8	Landscaping				\$683,875
A.8.1	Spread Topsoil, Fine Grade, Fertilize	1,000	CY	\$3.0	\$3,000
A.8.2	Seeding				
	A.8.2.1 Lawn / General	50,000	SF	\$0.11	\$5,500
	A.8.2.2 Upland Meadow	60,000	SF	\$0.25	\$15,000
A.8.3	Stabilized Lawn Parking	11,500	SF	\$3	\$34,500
A.8.3	Street/Parking Area Trees	15	EA	\$500	\$7,500
A.8.4	Ornamental Trees	8	EA	\$250	\$2,000
A.8.5	Shrubs	75	EA	\$85	\$6,375
A.8.6	Rain Gardens	1	LS	\$10,000	\$10,000
A.8.7	Streambank / Wetland Restoration	300,000	SF	\$2.00	\$600,000
A.9	Site Amenities				\$39,400
A.9.1	Picnic Tables	4	EA	\$2,000	\$8,000
A.9.2	Benches	4	EA	\$1,200	\$4,800
A.9.3	Trash Receptacle	2	EA	\$800	\$1,600
A.9.4	Jug Filler / Water Fountain	1	EA	\$5,000	\$5,000
A.9.5	Community Gardens	1	LS	\$20,000	\$20,000
A.10	Miscellaneous Site Improvements				\$23,050
A.10.1	Site Identification Sign	1	EA	\$5,000	\$5,000
A.10.2	Removable Bollards	3	EA	\$350	\$1,050
A.10.3	Concrete Wheel Stops	8	EA	\$250	\$2,000
A.10.4	Private Driveway Entry	1	LS	\$10,000	\$10,000
A.10.5	ADA Signage	4	EA	\$500	\$2,000
A.10.6	Pedestrian Road Crossing	1	LS	\$3,000	\$3,000
Subtotal Site Improvements (A):					\$1,406,113
B.	Structures				
B.1	Structures				\$54,000
B.1.1	30'x30' Pavilion	1	EA	\$36,000	\$36,000
	B.1.1.1 Pavilion Installation	1	EA	\$18,000	\$18,000
Subtotal Structure Improvements (B):					\$54,000
C.	Water Service Improvements				
C.1	Water Service				\$25,000
C.1.1	On Site Water Service Improvements	1	LS	\$25,000	\$25,000
Subtotal Water Service Improvements (C):					\$25,000
SUBTOTAL (A-C):					\$1,485,113
10% DESIGN CONTINGENCY:					\$148,511
TOTAL PROBABLE COST (BASE BID):					\$1,633,625

1	Professional Design Fees	10%	\$163,362
2	Construction Contingency Fund	5%	\$81,681
3	Miscellaneous Costs	2.5%	\$40,841
	Includes but is not limited to:		
	Site Surveying, Test Borings, Sink Hole Investigation,		
	Builders Risk Insurance, Building Permit,		
	Labor and Industry Fee, Document Printing,		
	Construction Testing, Storm Water Permit		
4	Total Soft Costs	17.5%	\$285,884
TOTAL PROJECT ESTIMATE			\$1,919,509

Note: Probable cost for site work does not include the following:

1. Rerouting gas, CATV, or phone lines. Additional improvements as may be required by municipal or other reviewing agencies having jurisdiction
2. Utility service and or connection fees.
3. Interpretive signage design.
4. Removal of unsuitable materials, sink hole remediation, or on lot disposal system designs.
5. Irrigation of athletic fields, and water reels
6. Project financing costs
7. Water Meter Pit and Tap cost are not included.

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Oakbourne Park Module 3 - Pond Core

Budget Estimate

DATE: January, 2021

ITEM	DESCRIPTION	EST. QTY.	UNITS	UNIT PRICE	TOTAL COST
A.	Site Improvements				
A.1	General Requirements				\$52,731
A.1.1	Bond, Mobilization	1	LS	\$36,531	\$36,531
A.1.2	Survey/Construction Layout	10	DAY	\$1,000	\$10,000
A.1.3	Testing	1	LS	\$3,000	\$3,000
A.1.4	Submittals/Shop Drawings	8	MONTH	\$300	\$2,400
A.1.5	Project Sign	1	EA	\$800	\$800
A.2	Site Preparation and Demolition				\$14,000
A.2.1	Clearing and Grubbing	2	AC	\$3,000	\$6,000
A.2.2	Remove Trees	1	LS	\$8,000	\$8,000
A.3	Erosion and Sedimentation				\$15,000
A.3.1	Soil Stabilization and Controls	1	LS	\$15,000	\$15,000
A.4	Earthwork				\$56,500
A.4.1	Bulk Excavation and Fill				
A.4.1.1	Bulk Cut (Common Earth)	5,000	CY	\$3	\$12,500
A.4.1.2	Bulk Fill (Common Earth)	2,000	CY	\$4	\$8,000
A.4.1.3	Spoil Excess Cut on Property	3,000	CY	\$12	\$36,000
A.5	Site Concrete Construction				\$9,925
A.5.1	Concrete ADA Parking	550	SF	\$9	\$4,950
A.5.2	Concrete Curb	75	LF	\$35	\$2,625
A.5.3	Mountable Curb	10	LF	\$35	\$350
A.5.4	ADA Ramp	1	EA	\$2,000	\$2,000
A.6	Bituminous Pavement				\$77,750
A.6.1	8' Wide Bituminous Walkways	1,555	SY	\$50	\$77,750
A.7	Storm Drainage				\$100,000
A.7.1	Stormwater Management	1	LS	\$25,000	\$25,000
A.7.2	Pond Expansion for Stormwater Improvements	1	LS	\$75,000	\$75,000
A.8	Landscaping				\$20,410
A.8.1	Spread Topsoil, Fine Grade, Fertilize	1,000	CY	\$2.2	\$2,200
A.8.2	General Lawn Seeding	11,000	SF	\$0.11	\$1,210
A.8.3	Ornamental Trees	5	EA	\$500	\$2,500
A.8.4	Wetland Plantings	12,000	SF	\$1	\$12,000
A.8.5	Basin Riparian Seeding	10,000	SF	\$0.25	\$2,500

A.9	Site Amenities				\$8,000
A.9.1	Picnic Tables	2	EA	\$2,000	\$4,000
A.9.2	Benches	2	EA	\$1,200	\$2,400
A.9.3	Trash Receptacle	2	EA	\$800	\$1,600

A.10	Miscellaneous Site Improvements				\$4,850
A.10.1	Small Site Identification Sign	1	EA	\$3,000	\$3,000
A.10.2	Removable Bollards	1	EA	\$350	\$350
A.10.3	ADA Signage	2	EA	\$500	\$1,000
A.10.4	Concrete Wheel Stops	2	EA	\$250	\$500

Subtotal Site Improvements (A): \$359,166

B. Structures

B.1	Structures				\$134,000
B.1.1	ADA Accessible Fishing Dock	1	EA	\$40,000	\$40,000
	B.1.1.1 Install Fishing Dock	1	EA	\$15,000	\$15,000
B.1.2	Boardwalk	80	LF	\$300	\$24,000
B.1.3	Bridge	1	LS	\$40,000	\$40,000
	B.1.3.1 Install Bridge	1	LS	\$15,000	\$15,000

Subtotal Structure Improvements (B): \$134,000

SUBTOTAL (A-B): \$493,166

10% DESIGN CONTINGENCY: \$49,317

TOTAL PROBABLE COST (BASE BID): \$542,482

1	Professional Design Fees	10%	\$54,248
2	Construction Contingency Fund	5%	\$27,124
3	Miscellaneous Costs	2.5%	\$13,562

Includes but is not limited to:

Site Surveying, Test Borings, Sink Hole Investigation,
 Builders Risk Insurance, Building Permit,
 Labor and Industry Fee, Document Printing,
 Construction Testing, Storm Water Permit

4	Total Soft Costs	17.5%	\$94,934
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TOTAL PROJECT ESTIMATE \$637,417

Note: Probable cost for site work does not include the following:

1. Rerouting gas, CATV, or phone lines. Additional improvements as may be required by municipal or other reviewing agencies having jurisdiction
2. Utility service and or connection fees.

3. Interpretive signage design.
4. Removal of unsuitable materials, sink hole remediation, or on lot disposal system designs.
5. Irrigation of athletic fields, and water reels
6. Project financing costs
7. Water Meter Pit and Tap cost are not included.

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Oakbourne Park Module 4 - Mansion Core

Budget Estimate

DATE: January, 2021

ITEM	DESCRIPTION	EST. QTY.	UNITS	UNIT PRICE	TOTAL COST
A.	Site Improvements				
A.1	General Requirements				\$304,036
A.1.1	Bond, Mobilization	1	LS	\$286,636	\$286,636
A.1.2	Survey/Construction Layout	10	DAY	\$1,000	\$10,000
A.1.3	Testing	1	LS	\$3,000	\$3,000
A.1.4	Submittals/Shop Drawings	12	MONTH	\$300	\$3,600
A.1.5	Project Sign	1	EA	\$800	\$800
A.2	Site Preparation and Demolition				\$45,300
A.2.1	Clearing and Grubbing	9	AC	\$3,000	\$27,000
A.2.2	Remove Trees	1	LS	\$12,000	\$12,000
A.2.3	Strip and Stockpile Topsoil (6" deep)	2,100	CY	\$3	\$6,300
A.3	Erosion and Sedimentation				\$70,000
A.3.1	Soil Stabilization and Controls	1	LS	\$70,000	\$70,000
A.4	Earthwork				\$58,500
A.4.1	Bulk Excavation and Fill				
A.4.1.1	Bulk Cut (Common Earth)	9,000	CY	\$3	\$22,500
A.4.1.2	Bulk Fill (Common Earth)	9,000	CY	\$4	\$36,000
	<i>Balance:</i>	0	CY		
A.5	Site Concrete Construction				\$751,000
A.5.1	Concrete Pavement				
A.5.1.1	Walks	7,500	SF	\$9	\$67,500
A.5.1.2	Shelter Pads	3,000	SF	\$12	\$36,000
A.5.2	Concrete Unit Pavers (Decorative Paving)				
A.5.2.1	Mansion Core	17,000	SF	\$16	\$272,000
A.5.2.2	Sundial Garden	5,000	SF	\$16	\$80,000
A.5.2.3	Event Space	6,000	SF	\$16	\$96,000
A.5.3	Aggregate Unit Pavers Base				
A.5.3.1	Mansion Core	17,000	SF	\$4	\$68,000
A.5.3.2	Sundial Garden	5,000	SF	\$4	\$20,000
A.5.3.3	Event Space	6,000	SF	\$4	\$24,000
A.5.4	Concrete Curb				
A.5.4.1	Parking Area (Outside)	1,100	LF	\$35	\$38,500
A.5.5	Concrete Retaining Walls (SRW)				
A.5.5.1	Seat Wall	150	LF	\$300	\$45,000
A.5.6	Concrete ADA Ramp	2	EA	\$2,000	\$4,000

A.6	Bituminous Pavement					\$579,940
A.6.1	Parking Area and Access Drive					
	A.6.1.1 Bituminous Paving and Base	8,600	SY	\$40		\$344,000
	A.6.1.2 Pavement Markings/Stalls	94	EA	\$10		\$940
A.6.2	8 ' Wide Bituminous Walkways					
	A.6.2.1 Bituminous Paving and Base	4,700	SY	\$50		\$235,000
A.7	Storm Drainage					\$510,000
A.7.1	Stormwater Management	1	LS	\$450,000		\$450,000
A.7.2	Rain Gardens	2	EA	\$30,000		\$60,000
A.8	Landscaping					\$149,500
A.8.1	Spread Topsoil, Fine Grade, Fertilize	3,000	CY	\$3.0		\$9,000
A.8.2	Seeding					
	A.8.2.1 Lawn / General	175,000	SF	\$0.11		\$19,250
	A.8.2.2 Upland Meadow Seeding	100,000	SF	\$0.25		\$25,000
A.8.3	Street/Parking Area Trees	35	EA	\$600		\$21,000
A.8.4	Ornamental Trees	15	EA	\$500		\$7,500
A.8.5	Hedge	1,000	LF	\$20		\$20,000
A.8.6	Kitchen Gardens	1	LS	\$25,000		\$25,000
A.8.7	Ornamental Plantings					
	A.8.7.1 Manson Area	75	EA	\$85		\$6,375
	A.8.7.2 Other Ornamental Shrubs	75	EA	\$85		\$6,375
	A.8.7.3 Sundial Garden	1	LS	\$10,000		\$10,000
A.8.8	Rain Gardens	1	LS	\$15,000		\$15,000
A.9	Site Amenities					\$53,200
A.9.1	Plaza Tables	12	EA	\$1,800		\$21,600
A.9.2	Picnic Tables	8	EA	\$2,000		\$16,000
A.9.3	Benches	4	EA	\$1,200		\$4,800
A.9.4	Trash Receptacle	6	EA	\$800		\$4,800
A.9.5	Drinking Water Fountain	1	EA	\$5,000		\$5,000
A.9.6	Bicycle Rack	2	EA	\$500		\$1,000
A.10	Iconic Playground					\$487,334
A.10.1	Play Equipment	1	LS	\$200,000		\$200,000
A.10.2	Play Equipment Installation	1	LS	\$100,000		\$100,000
A.10.3	Edging	300	LF	\$25		\$7,500
A.10.4	Underdrain	150	LF	\$31		\$4,575
A.10.5	Safety Surface (Poured In Place)	6,000	SF	\$28		\$168,000
A.10.6	Stone Base and Filter Fabric	700	SY	\$10		\$7,259
A.11	Nature Based Play Area					\$180,271
A.11.1	Play Equipment	1	LS	\$100,000		\$100,000
A.11.2	Play Equipment Installation	1	LS	\$50,000		\$50,000
A.11.3	Edging	300	LF	\$15		\$4,500
A.11.4	Underdrain	150	LF	\$31		\$4,575
A.11.5	Safety Surface (Mulch)	300	CY	\$43		\$12,900
A.11.6	Stone Base and Filter Fabric	800	SY	\$10		\$8,296

A.12	Miscellaneous Site Improvements				\$154,000
A.12.1	Parking Lot - Utility Access Gates	2	EA	\$2,500	\$5,000
A.12.2	Concrete Wheel Stops	68	EA	\$250	\$17,000
A.12.3	Relocate and Restore Historic Fountain	1	LS	\$60,000	\$60,000
A.12.4	Small Group Gathering Area with Fire Pit	1	LS	\$20,000	\$20,000
A.12.5	ADA Signage	4	EA	\$500	\$2,000
A.12.6	Sundial Sculpture	1	LS	\$50,000	\$50,000

Subtotal Site Improvements (A): \$3,343,081

B. Structures

B.1	Structures				\$355,000
B.1.1	Overlook Deck	1	EA	\$20,000	\$20,000
	B.1.1.1 Deck Installation	1	EA	\$10,000	\$10,000
B.1.2	30'x50' Pavilion	2	EA	\$50,000	\$100,000
	B.1.2.1 Pavilion Installation	2	EA	\$25,000	\$50,000
B.1.3	Carriage House Conversion to Restrooms	1	LS	\$175,000	\$175,000

Subtotal Structure Improvements (B): \$355,000

C. Water Service Improvements

C.1	Water Service				\$20,000
C.1.1	On Site Water Service Improvements	1	LS	\$20,000	\$20,000

Subtotal Water Service Improvements (C): \$20,000

D. Utilities

D.1	Utility Connections				\$25,000
D.1.1	Sanitary Line	1	LS	\$25,000	\$25,000

Subtotal Utility Relocation Improvements (D): \$25,000

E. Electric

E.1	Site Electric				\$126,500
E.1.1	Utility Power Extension	1	LS	\$30,000	\$30,000
E.1.2	Service Panel and Meter	1	LS	\$10,000	\$10,000
E.1.3	Receptacle Pedestals	1	LS	\$3,500	\$3,500
E.1.4	Security Lighting	1	LS	\$10,000	\$10,000
E.1.5	Walkway Lighting	1	LS	\$30,000	\$30,000
E.1.6	Wiring and Conduit	1	LS	\$15,000	\$15,000
E.1.7	15' Pole Lighting	8	EA	\$3,500	\$28,000

Subtotal Electric Improvements (E): \$126,500

			SUBTOTAL (A-E):	\$3,869,581
			10% DESIGN CONTINGENCY:	\$386,958
			TOTAL PROBABLE COST (BASE BID):	\$4,256,539
1	Professional Design Fees		10%	\$425,654
2	Construction Contingency Fund		5%	\$212,827
3	Miscellaneous Costs		2.5%	\$106,413
	Includes but is not limited to:			
	Site Surveying, Test Borings, Sink Hole Investigation,			
	Builders Risk Insurance, Building Permit,			
	Labor and Industry Fee, Document Printing,			
	Construction Testing, Storm Water Permit			
4	Total Soft Costs		17.5%	\$744,894
			TOTAL PROJECT ESTIMATE	\$5,001,433

Note: Probable cost for site work does not include the following:

1. Rerouting gas, CATV, or phone lines. Additional improvements as may be required by municipal or other reviewing agencies having jurisdiction
2. Utility service and or connection fees.
3. Interpretive signage design.
4. Removal of unsuitable materials, sink hole remediation, or on lot disposal system designs.
5. Irrigation of athletic fields, and water reels
6. Project financing costs
7. Water Meter Pit and Tap cost are not included.

JMT, Inc. is not a construction contractor and therefore probable construction cost opinions are based solely upon our experience with construction. This requires JMT to make a number of assumptions as to actual conditions which will be encountered on the site; the specific decisions of other design professionals engaged; the means and methods of construction the contractor will employ; contractors' techniques in determining prices and market conditions at the time, and other factors over which JMT has no control. Given these assumptions which must be made, JMT states that the above probable construction cost opinion is a fair and reasonable estimate for construction costs.

Oakbourne Park - Cope Tract Overlay

Budget Estimate

DATE: January, 2021

ITEM	DESCRIPTION	EST. QTY.	UNITS	UNIT PRICE	TOTAL COST
A.	Site Improvements				
A.1	Site Preparation and Demolition				\$38,100
A.1.1	Clearing and Grubbing	11	AC	\$3,000	\$33,000
A.1.2	Strip and Stockpile Topsoil (6" deep)	1,700	CY	\$3	\$5,100
A.2	Erosion and Sedimentation				\$15,000
A.2.1	Soil Stabilization and Controls	1	LS	\$15,000	\$15,000
A.3	Earthwork				\$9,750
A.3.1	Bulk Excavation and Fill				
A.3.1.1	Bulk Cut (Common Earth)	1,500	CY	\$3	\$3,750
A.3.1.2	Bulk Fill (Common Earth)	1,500	CY	\$4	\$6,000
	<i>Balance:</i>	0	CY		
A.4	Site Concrete Construction				\$15,000
A.4.1	Concrete Pavement				
A.4.1.1	Shelter Pad	1,250	SF	\$12	\$15,000
A.5	Bituminous Pavement				\$74,420
A.5.1	Parking				
A.5.1.2	Bituminous Paving and Base	1,350	SY	\$40	\$54,000
A.5.1.3	Pavement Markings/Stalls	42	EA	\$10	\$420
A.5.2	8' Wide Bituminous Walkways				
A.5.2.1	Bituminous Paving and Base	400	SY	\$50	\$20,000
A.6	Landscaping				\$118,500
A.6.1	Spread Topsoil, Fine Grade, Fertilize	1,700	CY	\$3.0	\$5,100
A.6.2	Seeding				
A.6.2.1	Lawn / General	90,000	SF	\$0.11	\$9,900
A.6.2.2	Upland Meadow	330,000	SF	\$0.25	\$82,500
A.6.3	Shade Trees	35	EA	\$600	\$21,000
A.7	Site Amenities				\$13,600
A.7.1	Picnic Tables	4	EA	\$2,000	\$8,000
A.7.2	Benches	4	EA	\$1,200	\$4,800
A.7.3	Trash Receptacle	1	EA	\$800	\$800

A.8	Miscellaneous Site Improvements				\$91,300
A.8.1	Concrete Wheel Stops	42	EA	\$250	\$10,500
A.8.2	Disc Golf Holes	9	EA	\$1,200	\$10,800
A.8.3	8' High Chain Link Fence	1,400	LF	\$50	\$70,000
Subtotal Site Improvements (A):					\$375,670
B.	Structures				
B.1	Structures				\$54,000
B.1.1	30'x30' Pavilion	1	EA	\$36,000	\$36,000
	B.1.1.1 Pavilion Installation	1	EA	\$18,000	\$18,000
Subtotal Structure Improvements (B):					\$54,000
SUBTOTAL (A-B):					\$429,670
10% DESIGN CONTINGENCY:					\$42,967
TOTAL PROBABLE COST:					\$472,637
1	Professional Design Fees			10%	\$47,264
2	Construction Contingency Fund			5%	\$23,632
3	Miscellaneous Costs			2.5%	\$11,816
	Includes but is not limited to:				
	Site Surveying, Test Borings, Sink Hole Investigation,				
	Builders Risk Insurance, Building Permit,				
	Labor and Industry Fee, Document Printing,				
	Construction Testing, Storm Water Permit				
4	Total Soft Costs			17.5%	\$82,711
TOTAL PROJECT ESTIMATE					\$555,348

Note: Probable cost for site work does not include the following:

1. Rerouting gas, CATV, or phone lines. Additional improvements as may be required by municipal or other reviewing agencies having jurisdiction
2. Utility service and or connection fees.
3. Interpretive signage design.
4. Removal of unsuitable materials, sink hole remediation, or on lot disposal system designs.
5. Irrigation of athletic fields, and water reels
6. Project financing costs
7. Water Meter Pit and Tap cost are not included.

JMT, Inc. is not a construction contractor and therefore probable construction cost opinions are based solely upon our experience with construction. This requires JMT to make a number of assumptions as to actual conditions which will be encountered on the site; the specific decisions of other design professionals engaged; the means and methods of construction the contractor will employ; contractors' techniques in determining prices and market conditions at the time, and other factors over which JMT has no control. Given these assumptions which must be made, JMT states that the above probable construction cost opinion is a fair and reasonable estimate for construction costs.

Operations and Management Plan



Introduction

About 75 percent of the cost of a park over its lifetime is in operations and maintenance¹. By addressing operations and maintenance during the planning, the Township will be able to make informed decisions about implementing the recommendations of the Park Master Plan, the allocation of resources, budget, staffing, and partnerships.

Park Maintenance²

Park Maintenance is defined as keeping parks and recreation areas and facilities in their original state. Maintenance includes routine recurring work, repair work, and minor construction. Parks and recreation maintenance management is a complex job requiring a wide variety of skill sets: organizational development, budget, equipment, turf, natural resources, personnel, customer service, public image, communication, evaluation, scheduling, and keeping pace with changes in technology and social norms. The dual responsibilities of park maintenance management include protecting natural and man-made resources as well as providing the finest recreation experiences possible.

Park Operations and Management Plan for Oakbourne

In developing this Operations and Management Plan for the Park, the consulting team worked closely with the Township's team of dedicated employees devoted to supporting the park's operations, programming, scheduling, and maintenance. Interviews and work sessions with the Public Works Director, Township administration, project study committee, and community key stakeholders provided the information needed to establish a maintenance and operations framework. Township reports, plans, and budget documents were important sources of information in our maintenance work sessions. They provided input on the proposed park design, maintenance practices, challenges, and ideas to include in the planning, development, operation, and programming of the Park.

Our Constitutional Right

THE ENVIRONMENTAL RIGHTS AMENDMENT

The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic, and esthetic values of the environment. Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and **maintain them** for the benefit of all the people.

Pennsylvania Constitution Article 1, Section 27 Natural Resources and the Public Estate

Park Maintenance Framework

The following framework formalizes the Township's approach to park management and operations. Certain principles are basic to any effective park maintenance management system. They provide the basis upon which the entire maintenance operation for the Township's parks and recreation system overall should be based. They serve as standards that help measure the effectiveness of Westtown's park maintenance system. A break in any one of these will impact the quality of the parks and recreation system overall, as effective maintenance is a key factor in overall success.

¹ Lay, Francis. 1978. Management of Grounds or Site Operations Manual, **Manual of Site Management**, Environmental Design Press. p4.

² Warren, Roger, Rea, Phillip, and Payne, Scott. (2007) Park and Recreation Maintenance Management. Sagamore Publishing: Champaign, IL. pp 1-15.

What is sustainability?

Sustainability is a broad term most often defined as "meeting the needs of the present without compromising the ability of future generations to meet their needs."

Brundtland, Gro Harlem. (1987) Our Common Future: Report of the World Commission on Environment and Development. New York City, NY: United Nations

Elements of the Oakbourne Park Maintenance Framework

1. Maintenance objectives and standards must be established.
2. Maintenance should be performed with economy of time, personnel, equipment, and materials.
3. Maintenance operations should be based upon a sound written maintenance plan.
4. Scheduling of work must be based upon sound polices and priorities.
5. A high emphasis must be placed upon preventive maintenance.
6. The maintenance department must be well organized.
7. Sufficient fiscal resources to support the maintenance program must be allocated.
8. Adequate personnel to carry out maintenance functions must be provided.
9. The maintenance program must be designed to protect the park's history and natural environment.
10. The Public Works Department must take responsibility for the safety of the public, employees, and volunteers in all aspects oof park maintenance.
11. In the design and construction of park facilities, maintenance should be a primary consideration.
12. Maintenance employees are responsible for the public image of Westtown Township, overall as well as the parks and recreation system.
13. All work must be performed with a sense of pride.
14. This framework applies to all Township employees, contractors, and volunteers.

Sustainability

The maintenance program must be designed to protect the park's heritage and natural environment. This requires the development of a sustainability plan for the Park. The following activities would be incorporated in to such a plan:

- Green infrastructure practices
- Responsible land management
- Protect and manage wildlife and wildlife habitat
- Reduce landfill waste
- Adopt greener equipment and transportation methods
- Environmentally friendly building practices
- Cultural resource protection
- Renewable energy use
- Adaptation strategies and activities to address climate change
- Provide opportunities for healthy activities in nature
- Foster sustainability through public education and engagement

Green Infrastructure Practices³

Green infrastructure can be used to help reduce park maintenance. Green infrastructure practices:

- provide better drainage that reduces the maintenance burden by producing healthy vegetation.
- promote infiltration or overland flow, helping to reduce mosquito breeding habitat.
- reduce irrigation needs by dispersing water over a larger vegetated area.
- reduce the need for supplemental water, fertilizers, and pesticides.
- reduce mowing and weeding frequency.
- reduce high runoff or sedimentation of streams.
- filter out pollutants and retain stormwater.

Effective maintenance practices are essential to ensure the permeability and overall health of the soil and vegetation that is critical to performance. Green infrastructure features usually are not more maintenance intensive, especially if they are designed correctly.

In order to function properly porous pavement needs to be vacuumed. Over time, infiltration rates can diminish if the surface of an infiltration feature becomes clogged with fine sediment. Organic matter (leaf litter) or other materials prevent percolation. Soils can also become compacted if they are subject to excessive foot or vehicle traffic. Soils might need to be excavated, scraped, aerated, tilled, or replaced if standing water is present several days after a storm, indicating poor drainage. Permeable pavement might need to be vacuumed or, in the most challenging cases, removed and reinstalled to restore permeability.

The link below from the City of Seattle provides an example of an excellent manual for stormwater operations and maintenance. This example is can be helpful to Westtown Township as quality standards are developed on best management practices for green infrastructure maintenance in Oakbourne Park.
[Green Stormwater Operations and Maintenance Manual](#)

Parks and Recreation Organization and Staffing in Westtown Township

Organization

The Board of Supervisors sets policy on parks and recreation. The Township Manager is responsible for ensuring that the policies are carried out through the Township departments. The Westtown Township Parks and Recreation Commission is an advisory group.

Westtown Township Parks and Recreation Commission

The purpose of the Parks and Recreation Commission is to advise the Board of Supervisors regarding all matters affecting the parks, parks facilities and recreation budget. The Board of Supervisors appoints seven members to serve on the Commission. Parks and Recreation Commissions, are empowered by Commonwealth of Pennsylvania Second Class Township Code to consult with and advise the Township Manager and the Board of Supervisors in matters affecting recreation services policy, programs, finances, lands, and properties related to the total community recreational services program, facility development, facility

³ United States Environmental Protection Agency. (2017) Green Infrastructure in Parks: A Guide to Collaboration, Funding and Community Engagement. [Green Infrastructure in Parks: A Guide to Collaboration, Funding, and Community Engagement \(PDF\)](#)

maintenance and to the long range, projected programs for recreation services. The Westtown Township Parks and Recreation Commission primarily focuses on planning and managing community events.

Parks and Recreation Staffing

Parks and recreation functions are divided among Township staff in Administration and Public Works. Another two to three maintenance workers serve seasonally. The Public Works Director oversees the maintenance of all Township property and roads, including park maintenance. The Parks Coordinator is in charge of scheduling park programs and events, including in both the Park and the Mansion. The Township Manager assigns an administrative staff person the responsibility for managing special projects such as this Plan. The Parks and Recreation Commission plans and manages special events.

All park maintenance is done in house with no contracting of maintenance tasks. The major exception is ballfield maintenance. The Township leases the baseball and soccer fields to sports leagues who maintain the fields. At one time, grass mowing was contracted out. When the per acre cost of the contract escalated, the Public Works Department took back that function. The Board of Supervisors supported this decision and provided funding for three mowers. No formal written maintenance management plan is in place with tasks being carried out principally based on how and when maintenance tasks were carried out in the past and addressing emerging needs in the Park. As common in many park departments, the predominant work of park maintenance has been grass mowing and trash removal/litter pick-up.

The transition toward the management of natural resources and advancing sustainability as described previously is important. Environmentally sound practices and sustainability in the care of all lands in the Township is crucial in an era of climate change. Oakbourne Park could serve as the pilot project and model for all township public property maintenance.

Perspective on Staffing

The Public Works Department has seven full-time workers including the Director and six staff workers. Four employees serve on the roads and parks crew while two work in the wastewater department. Since the four Public Works crew members work primarily on road projects and attend to other public properties, the FTE (Full Time Equivalent) for parks is estimated at about 2.5 based upon budget figures. Another two to three seasonal workers are hired annually in the roads' crew for park and public property maintenance. This equates to about 3.5 FTE park maintenance workers. The Public Works Director is committed to training his crew and makes opportunities available. The Public Works Director is a Certified Playground Safety Inspector (CPSI). This is a valued and important certification for Westtown Township to have.

Maintenance of Westtown Township's Parks

Westtown Township maintains two parks and four open spaces. They include:

- Oakbourne Park, the Township's largest park.
- Tyson Park, a neighborhood park with interpretive bioswale, pavilion, paved walking trail, playground equipment, portable ADA restroom, and open grass areas.
- Larchbourne Park Open Space, Plumly Farm Open Space, Edgewood Chase Open Space, and South Penn Open Space.
- Not including the Township's open spaces, park acreage that requires traditional park maintenance totals about 150 acres including Oakbourne Park (144.7 acres minus 15 acres leased for agriculture) and the five-acre Tyson Park.

Park Maintenance Staffing Standards

The International City County Managers Association recommends a standard of one worker per 18 – 20 acres of parkland with a Best Management Practice of 12 acres per worker⁴. Currently, Westtown Township would need a total of seven (7) FTE maintenance workers to be fully functioning with standard park maintenance management practices which would allow for more natural resource management and higher levels of maintenance of facilities with an emphasis on preventive maintenance. When the improvements to Oakbourne Park are phased in over time, additional responsibilities will emerge due to the higher quality of facilities, increased park use, and greater focus on sustainability. These responsibilities include restoration of park acreage to natural conditions, the maintenance of active areas and facilities such as the park hub, pavilions, trails, parking areas, state-of-the-art playground and furnishings, and restrooms.

While other additional facilities were discussed for consideration on the Cope Tract, they were not recommended in the final Plan. These facilities included disc golf, a dog park, community gardens, and additional parking. All of these facilities would have required significant additional park maintenance staff and budget. Since these facilities are not recommended, maintenance planning was irrelevant and not carried out.

Additional Support Mechanisms: Collaboration and Partnerships

Westtown Township works collaboratively with organizations with similar missions, goals, and interests. These organizations provide important services in support of Oakbourne Park.

Friends of Oakbourne

The mission of the Friends of Oakbourne is to work to develop and promote optimal recreational and educational utilization of Oakbourne Park and Mansion with diligent regard to the enhancement of its pastoral, historic, and arboreal aspects. The Friends seek the broadest possible private, public organizational and governmental involvement in these endeavors. Friends of Oakbourne was instrumental in having Oakbourne Park accredited as a Level 1 arboretum by ArbNet, and manages a commemorative tree and bench donation program. They meet quarterly, and contribute significant volunteer labor such as tree planting and care of the arboretum.

Westtown Community Garden

This organization runs and maintains the community gardens within the park and offers educational opportunities for the community. New members learn how to grow food organically, and garden members provide tours and answer questions on Westtown Day. Garden members are also a resource for Park users on days when they are actively working in the garden and often talk with park users and even give tours on demand if people walking by have interest. The organization provides space to grow food dedicated to the West Chester Food Cupboard, donating hundreds of pounds of organic fresh produce and herbs yearly.

Historical Commission

The Westtown Township Historical Commission (HC) was created in March 2013. The purpose of the Historical Commission is to foster a community appreciation of the rich and varied history of the Township. This includes educating residents about lands, buildings, and sites of historic, architectural, archaeological, or cultural significance and the people who worked, farmed, and lived in Westtown Township. The Commission participated in the master planning process in a work session adding their ideas and concerns for improving Oakbourne Park with respect to its history, landscape, and architecture.

⁴ https://wrga.gov/DocumentCenter/View/1914/14233_08_Section_5_Maintenance_and_Operational_Cost_Assessment. Accessed November 20, 2020.

Scout Groups

Scouts are major users of Oakbourne Park. They conduct annual clean up days in the park, and perform service projects such as the trail sign, book box, basketball court improvements, and trail improvements,

Policies to Support Operations

Policies and procedures are an important part of a well-functioning parks and recreation organization. It is important for people at all levels of government and the public and private sectors involved with Oakbourne Park to understand the correct processes in place to ensure that the municipality maintains high quality in all facilities and services.

Policies and procedures provide a guide for meeting organizational objectives and describe the steps that employees are to take in the operation and management of parks, open space, recreation facilities and trails. The following recommendations for policies are based upon work sessions with the Township officials, management and staff and sound management practices of parks and recreation systems elsewhere. These suggested policies are meant to help establish smooth operating procedures that will save time and effort while creating good will. Adapting examples from other parks and recreation systems will help to streamline the policy-making process for Westtown Township. Other policy needs will emerge over time. The point is to spend time on policies that are needed to ensure sustainable operating practices but not to be consumed with policy development. Examples of policies that should be considered in the immediate time frame based upon the current park operations scenario include the following:

Revenue Policy – A Revenue policy sets forth Westtown Township’s philosophy on the generation of revenue from public and private resources. Mecklenburg County, North Carolina, offers a useful sample revenue policy.
<https://www.mecknc.gov/ParkandRec/Documents/RevenuePricingPolicy++2009-2010.pdf>

Gifts and Donations Policy – The Friends of Oakbourne Park has a memorial bench and tree planting program. The Township wishes to encourage and facilitate public and private gifts, bequests, and such contributions that enhance, beautify, improve, supplement, support, or otherwise benefit its community parks. Consideration of the installation, maintenance, and cyclic replacement costs for park donations should be considered as part of the donation price. This is especially important given the interest in establishing a veteran’s memorial in Oakbourne Park. Provisions regarding the repair and replacement of such equipment should be defined. Portland, Oregon offers a sample gifts and donations policy:
<https://www.portlandoregon.gov/citycode/article/68087>

Sponsorships – Westtown Township actively seeks sponsorships for Westtown Days. The purpose of such sponsorships is to increase the Township’s ability to deliver services to the community beyond the core levels funded from the Municipal general fund. In appreciation of such support, the Township should set forth a formal policy to provide sponsors with suitable acknowledgement of their contributions. However, such recognition for park and recreation facility improvements should adhere to the aesthetic values and purpose of Township parks. In addition, such recognition must be in harmony with the historic nature and heritage of Oakbourne Park and not detract from the visitor’s experience or expectation, nor impair the visual qualities of the parks or be perceived as creating a proprietary interest. This is particularly important in the leasing of ballfields that could be perceived as private recreation facilities not available to the public. The following link connects to Portland, Oregon’s policy on sponsorships that can be a model for Westtown Township:
<http://www.portlandonline.com/shared/cfm/image.cfm?id=155566>

Naming Rights – Naming Rights are a financial transaction and form of advertising in which a corporation, business, individual or other entity purchases the right to name a facility or event, typically for a defined period of time. For large properties like a community building, the term ranges from three to 20 years. The distinctive characteristic for this type of naming rights is that the buyer gets a marketing property to promote products and services, promote customer retention, or increase market share. The City of Vancouver offers a good example of a naming rights policy:
[https://www.cityofvancouver.us/sites/default/files/fileattachments/parks and recreation/page/1083/policy_park_naming.pdf](https://www.cityofvancouver.us/sites/default/files/fileattachments/parks%20and%20recreation/page/1083/policy_park_naming.pdf)

What is Risk Management?

Risk management is the practice of controlling the possibility and severity of foreseeable accidents and administering due care.

Advertising – The intent of an advertising policy is to generate revenues from paid advertising and sponsorships to offset some of the costs associated with producing program brochures and other informative literature, maintaining, and improving athletic and other recreation facilities, and procuring capital equipment related to recreational facilities which would not otherwise be funded in the department budget. The policy must be rooted in the aesthetics and mission of the parks, as well as the visitor experience. The following link provides a model of an advertising policy from the Washington State Parks for adaption in Westtown Township:
<https://parks.state.wa.us/970/Advertising>

Risk Management

Park safety and security is important from three perspectives: protecting the historic, natural, and recreational resources of Oakbourne Park; protecting park visitors and program participants; and managing Township finances by minimizing exposure to lawsuits. The Township's goal is to enable park visitors to have a high-quality experience using the Park in safe, responsible, and appropriate ways. Establishing a safety policy, instituting procedures for implementing the safety policy, and documenting the practices would help to enable Westtown Township to "pass the liability test" should a lawsuit arise.

It is important to note that the involvement of the Township Solicitor and Insurance Carrier is essential in developing and implementing the municipal Risk Management Program. The information is presented here is only a framework for consideration in developing the Risk Management Program that must be ultimately reviewed and approved in writing by the Solicitor and Insurance Carrier.

Generally, a landowner owes no legal duty to warn invitees on the premises of dangers which are open and obvious natural hazards. Invitees are those individuals who are invited or encouraged by the landowner to access the premises for a particular purpose. A landowner, however, may owe a legal duty to warn where the general scope of the danger is hidden or unusual, an effective "mantrap," which would not be apparent to the invitee through the reasonable use of his/her senses.

Pennsylvania's Political Subdivision Tort Claims Act

Under Pennsylvania's Political Subdivision Tort Claims Act, subject to the exceptions, "no local agency shall be liable for any damages on account of an injury to person or property caused by any act of the local agency or an employee thereof or any other person." 42 Pa. C.S. § 8541. Typically, these state statutes provide governmental immunity for ordinary negligence, requiring proof of gross negligence or willful/wanton misconduct to impose liability for injuries sustained on public recreational facilities. The full Act can be found at:

<https://www.legis.state.pa.us/WU01/LI/LI/CT/HTM/42/00.085..HTM>

Pennsylvania's Recreational Use of Land and Water Act

Pennsylvania's **Recreational Use of Land and Water Act** (referred to as "RULWA") provides substantial protection from liability to landowners who permit the public to come onto their land for outdoor recreation. This Act mainly benefits private landowners who allow the recreational use of their property without charge. This is important especially in creating trail systems in which links on private property are needed. **The best defense for landowners, however, is preparedness: an organized formal maintenance plan with records of actions, securing the proper insurance coverage, and taking steps to warn users of potentially dangerous conditions.**

Developing the Safety and Risk Management Plan

With a safety and risk management plan in place for parks and recreation, Westtown Township will be taking a proactive approach to managing safety and risk that protects the Oakbourne property, visitors, and financial resources. Medford, OR offers an example of a parks and recreation safety and risk management policy at:

<https://www.ci.medford.or.us/files/Risk%20Mgmt%20Plan%20and%20Procedures%20Manual.pdf>

The steps for establishing a risk management plan should be an inclusive process of Public Works Department management and staff, Township management, solicitor, insurance carrier representative, potential parks and recreation staff, and other stakeholders in the public and private sectors to be identified. The steps for establishing this plan include the following⁵:

1. Establish a Policy Statement for the Township's commitment to safety and the philosophy on risk management.
2. Conduct a Needs Assessment with a critical look at current safety and risk management practices.
3. Establish goals and objectives for Westtown Township's parks, recreation, and trail system.
4. Conduct a field reconnaissance to assess safety and risk conditions.
5. Assess and revise accordingly safety rules, regulations, and procedures. Include how these are going to be monitored and enforced.
6. Formalize in writing a routine, systematic method for safety inspections. Include the development of a reporting and record keeping system. Strive to do this as an online program with adequate provisions to ensure the security and long-term preservation of the records.
7. Create or modify the accident and incident reporting system. This should include how accidents are to be reported in an objective and thorough manner with the level of detail approved by the solicitor. The record keeping system, again, needs to be secure and protected for the long-term.
8. Establish emergency procedures. Emergencies vary in nature and are unpredictable. By having a plan in place with the steps to be taken under different situations, staff will be more likely to react in a favorable manner. Emergencies can range from a playground accident to an active shooter or lightning storm during a park event.
9. Review and update Westtown Township's waivers, releases, and agreements. Assess the current forms in light of current or anticipated rules, regulations, and social conditions.

⁵ Peterson, James A., Hronek, Bruce B., and Garges, James R. (2008). *Risk Management for Parks Recreation and Leisure Services* (5th Edition). Champaign, IL: Sagamore Publishing. pp 46-58.

10. Institute an in-service training program for management and staff on safety and risk management. Recruit the Insurance Carrier to help or support this training.
11. Brand safety as essential to Township's parks, recreation, and trail system. Include this in municipal public relations and customer service protocol. Showing interest and concern for people especially when there is an accident will go a long way in preserving good will, a key factor in decisions about litigation.
12. Review the plan annually or when the need arises and consult with the Township's legal and insurance specialists throughout the development of this plan, its use and updating over time.

Financing

Westtown Township's officials and staff are dedicated to closely monitoring the fiscal health of the Municipality, and to make the necessary improvements for providing effective services in the most efficient, transparent manner possible.

Budget Overview

Westtown is a Township of the Second Class with a population of 10,827 within 8.64 square miles covering approximately 54 miles of road surface. The assessed valuation of real estate is \$821,678,369 for the year ending October 31, 2020. Moody's Investors Service has assigned a rating of Aa2 to the Township's outstanding General Obligation debt noting that the Township's financial position is very strong. This rating reflects the Township's mature tax base, with above average wealth levels and moderate debt burden. The median family income of Township residents is a very strong 181.5% of the US median levels.

In 2013, the Board of Supervisors deemed it necessary to increase taxes to enable the Township to regain structural balance and improve its financial position, given three years of operating deficits and a deteriorating infrastructure. The 2013 budget approved an increase in millage from 2.5 to 3.5 mills on the assessed value of property. (One mill is worth 1/1000 of a dollar or .001.) As a result, the General Fund Unrestricted Reserves have increased to a level that is recommended by the Government Finance Officers Association of the United States and Canada as well as the National Advisory Council on State and Local Budgeting.

Annual Budget: Expenditures, Revenues, and Benchmarks

The 2021 budget for Westtown Township was \$7,171,173. The budget for Parks and Recreation is \$58,200 in 2021. Labor costs for park maintenance are included in the Public Works budget and not separated out for park maintenance.

Since the Public Works Department provides park maintenance labor, it is important to estimate that cost for budget purposes. Based upon the \$36,700 budgeted for park maintenance materials, equipment, and supplies as shown in Table 1, the estimated cost for park maintenance labor would be about \$244,700. Including this cost estimate for park maintenance labor in the parks and recreation budget brings the total budget to \$302,900. This estimate for park maintenance labor presents a more accurate picture of what the Township actually invests annually in parks and recreation. The \$302,700 Parks and Recreation budget is about 4.2% of the Township budget, or \$27.98 per Township resident. The Pennsylvania Department of Conservation and Natural Resources recommends that five percent of a governmental budget be allocated for parks and recreation. The average per capita municipal investment in parks and recreation in Pennsylvania is about \$38. Nationally, it is \$81.19.

Table 1. Westtown Township Parks and Recreation Budget 2018 - 2021

EXPENDITURES				
Park Maintenance	2018 Budgeted	2019 Budgeted	2020 Budgeted	2021 Budgeted
General park expense	\$635	\$5,000	\$5,000	9,000
Park Supplies	1,632	1,500	2,000	3,000
Special park projects	4,073	25,000	25,000	13,000
Veteran's Memorial	1,561			0
Park tools and equipment purchase	377	1,000	1,500	1,500
Park equipment repair and operation	682	2,000	2,000	2,000
Equipment rental	3,252	3,000	3,000	3,000
Parks – lawn maintenance	5,354	5,000	5,000	2,500
Community garden – shared cost	525	605	700	1,000
	\$18,092	\$43,105	\$44,200	\$35,000
Estimated Park Maintenance Labor Cost	\$245,000			\$280,000
TOTAL Budget + Estimated Labor Cost				
Culture & Recreation Administration				
Park & Recreation Commission	\$4,366	\$7,000	\$7,000	5,000
TOTAL with Estimated Labor Cost				\$285,000

Revenue Generation

Not including revenues generated through Oakbourne Mansion, table and chair rentals, the Township generates about \$33,000 annually in fees and charges via recreation programs, rentals and leases as shown in Table 2. This projection was reduced in the 2021 budget as expected due to public health guidelines complying with the pandemic of COVID-19 that limit recreation programming due to social distancing and group size limitations.

Table 2. Westtown Township Parks and Recreation Revenues 2018 - 2021

Revenue Sources	2018 Budgeted	2019 Budgeted	2020 Budgeted	2021 Budgeted
Township Park/Land Fees	\$6,285	\$6,500	\$6,000	\$5,000
Oakbourne Fields Lease	3,800	2,500	5,000	8,000
Township Building – Gatehouse	17,400	17,400	17,400	17,400
Township Building – Caretaker	1,571	1,596	1,596	0
Recreation Program Fees	997	180	0	0
Community Garden Fees	805	450	600	150
Community Garden Annual Dues	575	650	650	650
TOTAL	\$33,451	\$31,295	\$33,266	\$26,205

Oakbourne Mansion, Water Tower, Gatehouse, and Carriage House

Oakbourne Mansion is more than an iconic structure: it is an important revenue generator. While the Mansion is not part of the scope of work for this Plan, the master plan's focus on high quality facilities, beauty, gardens, landscaping, and support facilities is key to increasing revenues. The higher quality the facilities and beauty of the site are, the higher the revenue potential is. As a public facility, the Township can also make accommodations for those with financial needs where possible. However, the emphasis should be on revenue generation balanced with appropriate public access. Table 3 presents the Oakbourne Mansion Budget. The expenditures for the Mansion, Water Tower and Gatehouse are contained within other line items. The revenues for these facilities and equipment are shown as distinct line-item revenues.

Table 3. Oakbourne Mansion, Gatehouse and Caretaker Apartment Budget 2018 - 2021

EXPENDITURES			
	2019 Actual	2020	2021
Within other line items	TBD	TBD	TBD
REVENUES			
Oakbourne Mansion Events	53,311	5,000	35,000
Tables/Chairs Rentals	9,925	7,000	5,000
Gatehouse	17,400	17,400	17,400
Caretaker	1,596	1,596	0

Consideration should be given to establishing these facilities an Enterprise Fund. An enterprise fund is a fund that may be used for an activity or facility for which a fee is charged to external users for goods or services. Because the purpose of financial reporting is to provide information needed to make financial decisions and assess financial stewardship, it is vital to make sure that the reporting covers all direct and indirect costs of the facility, administration, utilities, improvements and so on. Applying fees and services together through an enterprise fund has advantages. Users and the general public can see how much it costs to provide particular services, and why the fees are set at a certain level. It's not always possible to balance fees and the cost of services perfectly but that is the goal at a minimum. Optimally, it is to raise revenues to offset overall parks and recreation operating costs. A fund may run in the red one year, which would be a sign for the Township to raise fees. If the fund turns a profit, the money carries over to operations in the next fiscal year for parks and recreation purposes. It would be advisable to have a specialist in economic development to do a market study of fees and charges as well as to make recommendations for facility and service improvements that would boost revenues; this is especially important in the current post-pandemic situation, ideally as soon as possible. Trends in facility rentals, preferences of Millennials, the post-pandemic economy and other factors will be affecting facility rentals and it is important for the Township to get ahead on this.

Projecting the Park's Maintenance Costs and Support

The maintenance budget must reflect the desired condition of the Parks' architectural, natural, and recreational facilities in accordance with the financial resources available through Township funds and alternative support. The maintenance budget to a large extent determines the quality of the Park in terms of its safety, scenic beauty, usability, and desirability. Estimating what the Park will cost to maintain helps in decision-making, staffing, the setting of fees, policy formulation, the allocation of resources, and securing non-traditional methods of support such as sponsorships and partnerships.

Cost Basis

Personnel costs comprise most of any park maintenance budget. The hourly rate for Westtown Township's park maintenance labor is about \$40 with wages, benefits, and payroll taxes. The major assumptions related to Oakbourne Park maintenance include the following:

- The Cope Tract agricultural area (approximately 15 acres of total 54-acre tract) will continue to be in active agricultural use via a lease with a farmer for the foreseeable future.
- The current estimated cost of park maintenance labor is \$245,000, roughly the equivalent of three full-time employees.
- The sports leagues will continue to lease and maintain the sports facilities under their agreements.
- Park improvements will be phased in as grants, township funds, and other sources of financial support are available.
- Park maintenance will be increased in accordance with investment and park improvements. The goal is that the park will always be safe, clean, functional, aesthetically pleasing, and environmentally and financially sustainable.

- Consideration should be given to contracting custodial services for restrooms, perhaps in conjunction with future restrooms for all Township parks. This could help to lower costs, improve staff working conditions, and most importantly, respond to the public's requests for "real restrooms."
- Outside revenues make up about 11.6 percent (11.6%) of the parks and recreation budget. In 2020, the NRPA reported the median cost recovery among departments surveyed nationally to be 29% with a range of 12% to 48%⁶ among municipalities with a population under 20,000.
- This information merely presents some benchmarks to frame parks and recreation planning in Westtown Township. The figures are not inherently good or bad, but instead offer perspective for considering how to move forward. Nor do they include the value of volunteers who contribute important knowledge, time, and support for parks and recreation such as the Friends of Oakbourne Park, the Westtown Community Garden, Scout Groups, league sports, Parks & Recreation Commission, and Historical Commission. The 2020 value of a volunteer hour was \$27.20 according to the Independent Sector.⁷

Current Maintenance Costs

Westtown Township has about 150 acres of parkland without open spaces and the agricultural area of the Cope Tract. While this acreage varies from natural to highly developed, for the purposes of this plan, the cost of park maintenance is \$285,000 including materials, supplies, and utilities along with estimated labor cost as described in the following financing section. This is a per acre cost of \$1,900 for the parks as a whole. No operations and maintenance costs are available specifically for Oakbourne Park. The National Recreation and Park Association's research into park maintenance shows a cost of about \$7,160 per acre for similar size communities, with a population density of Westtown's at 1,230 residents per square mile⁸. Natural areas would cost less than active facilities such as park hubs near the Mansion and be in the range of \$1,000 - 2,000 per acre and less after restoration. The budget costs would be targeted at only Oakbourne Park and be based upon 99 acres of high visitation areas on the Mansion side of the Park and 46 acres of passive, low use natural areas on the Cope Tract until the Township develops a formal maintenance plan that could generate maintenance costs by park, by facility, by function or other features. For Oakbourne Park, the annual estimated park maintenance budget would be about \$754,840. That would include \$560,000 in staffing; natural resource management and forestry; contracted-out restroom maintenance; utilities; materials; supplies; and small projects. This takes into consideration:

- Phasing in over years in conjunction with improvements.
- Higher level of care with respect to special events in the Mansion and the Water Tower area and the need to generate more revenues.
- Having an on-site uniformed presence at least during peak operating hours. The uniform would convey professionalism on the order of park ranger and good-will ambassador of the Township and provide a watchful eye, customer service, minor maintenance and clean up, and some interpretive or programming services.
- Cap on staffing at 62% of the park maintenance budget, a preferred goal.
- Cyclic Maintenance - In addition to daily, monthly, seasonal, and annual repairs, Oakbourne Park will require cyclic maintenance. Cyclic maintenance deals with the normal replacement of a capital item such as a roof. Cyclic repairs are a function of weather, use, and other circumstances such as natural events. Because the time frame for cyclic repairs is years away, projecting actual costs is not possible. The American Public Works Association recommends budgeting two to four percent of the development costs annually to establish as a capital reserve account for cyclic repairs. Advances in technology will also impact the future costs based upon changes in design and materials. Cyclic repair and replacement considerations include the following:
 - Infrastructure: Roads, parking lots, trails, utility lines for water, sewer, and electric. 10 – 30 years.
 - Play Equipment: 10-15 years.
 - Buildings and Structures: Roofs, furnishings, picnic tables and benches, shelters, bridges, fencing. 10-30 years.

⁶ <https://www.nrpa.org/siteassets/nrpa-agency-performance-review.pdf>. Accessed November 22, 2020.

⁷ <https://independentsector.org/> July 2020.

⁸ 2020 Performance Review. (2020) National Recreation and Park Association: Ashburn, VA. p19.

- Equipment: trucks, cars, tractors, trailers, and other large units based upon number of hours of operation, miles used and repair costs.

Management Model for Consideration

The major need for the Westtown Township community is recreation programs. Through the public outreach process, citizens expressed the need and interest in community recreation programs. Research into neighboring communities found that Westtown residents are registering for programs in nearby communities and would prefer to enjoy such programs in their own hometown.

Since Westtown Township has a population of under 11,000, establishing a full-service parks and recreation department is possible, but would be a stretch. The Pennsylvania Department of Conservation & Natural Resources (DCNR) offers a compelling alternative: a multi-municipal parks and recreation consortium. Pennsylvania municipal codes allow municipalities and school districts to join forces in providing parks and recreation jointly. Several dozen multi-municipal parks and recreation systems successfully operate throughout the state. Because this is a big decision for a municipality, PA DCNR offers a \$10,000 grant requiring only a \$1,000 match to explore the idea of establishing a multi-municipal parks and recreation system with a willing partner. Willing partners could be municipalities within the West Chester Area School District. At the end of this project, if the municipalities decide to move forward as partners, PA DCNR offers a Circuit Rider grant to hire a shared director for four years. The grant is 100% in year one, 75% in year two, 50% in year three, and 25% in year four. By year five, the director’s goal is to have established a sustainable parks and recreation system supported with a mix of public and private resources. The benefits to the partners include paying less for parks and recreation staffing through cost sharing, increased programs and public services, increased revenues through program fees and charges, grants, gifts, donations, sponsorships, partnerships, and other sources. Other multi-municipal parks and recreation systems show that for every dollar that a municipality invests in the systems annually for parks and recreation, the multi-municipal operation leverages that dollar many times over from non-tax funding. Without a recreation professional, the Township has limited both its services and revenues.

Table 4. Oakbourne Park Projected Operating Budget

This parks and recreation budget presents the projected operating costs for Oakbourne Park. It will be phased in as the park is improved over time.

EXPENSES	
Labor – 14,000 hours estimated	\$560,000
Equipment, materials, and supplies	98,000
Utilities	15,000
Forestry	15,000
Training	8,000
Potential Multi-Municipal Parks Director for Programming plus materials, supplies, equipment	58,840
TOTAL	\$754,840
CIP Reserve Budget – 2% of development costs annually in fund dedicated to cyclic repairs and park improvements with phasing. This estimate is based upon the estimate of probable cost for the full park master plan. This estimate will be reduced to correspond with the cost of the phase.	\$TBD
REVENUES	
Under Current Operating System	
Pavilion Rentals (two at \$100 for 180 visits)	\$18,000
Sports Field Leases	\$10,000
Community Garden Fees	1,000
Community Garden Membership	1,200
Under Multi-Municipal	
Programs, sponsorships: park system as a whole. Grants would add to capital funding.	Growth over time from \$20,000 -60,000-100,000+ Grants would be additional sources

APPENDIX A: MANSION HISTORY

The History and Architecture of Oakbourne

In 1882, a wealthy Philadelphia lawyer named James Charles Smith and his wife, Heloise Drexel Smith, purchased 143 acres of land on the west side of what is now South Concord Road in Westtown Township.

Mr. and Mrs. John Hulme, a Philadelphia industrialist, originally owned the estate, which they had named Belmont. Their property included a 2½ story Italianate grey granite farmhouse, the outline of which can be seen today from the front of Oakbourne Mansion. It was five bays wide and had a center entry door and five garret windows along the top half-story.

By 1884, Mr. and Mrs. Smith had renamed their homestead Oakbourne, after the many oak trees on the property. They also enlarged and renovated the farmhouse into a High Victorian/Queen Anne Revival-style mansion. This style is characterized by the use of multiple materials and textures to produce elaborate and asymmetrical ornamentation. It is believed the architect of the new mansion was Thomas Roney Williamson (1852-1896) of West Chester. Among many other changes, his 1884 renovation included 18 rooms, a tall square observation deck with a peaked roof, and one of his signature architectural elements, a round mini-tower.

Today the existing original copper embellishments on the house have oxidized to a green verdigris. Above the door on the north side is a decorative copper letter “S” with smaller letters “JC” on the left and “HD” on the right. As a side note: Heloise Drexel Smith had 3 brothers - Anthony Joseph (who founded Drexel University), Joseph William, and Francis Anthony (whose daughter was the nun eventually canonized as St. Katherine Drexel (1858-1955) - the first canonized saint to have been born a United States citizen).

At the same time, a picturesque 65-foot tall water tower was built on one of the highest points of the estate in the same style as the renovated mansion. It housed a 1000-gallon twin tank water reservoir that supplied running water and fire protection for the home. The structure also provided a secondary function as a lookout from which to view the peaceful surrounding countryside. In 1995, the water tower was adopted as the official symbol for Westtown Township.

At the northern end of their property along the current Oakbourne Road, the Smiths established a 27-acre park among the trees, which included a summer house and a pond. The pond, as well as remnants of a stone wall and an entry gate, still exist there. The Smiths enjoyed raising such livestock as cows, horses, and chickens.

Mr. Smith passed away in 1893 and Mrs. Smith passed away in 1895. The Smiths had no living children. After her death Mrs. Smith willed the property to the Philadelphia Protestant Episcopal City Mission to be used as a retreat for sick and convalescing white women aged 21 and older. The mansion was named The James C. Smith Memorial Home and a trust fund was established to provide for its maintenance. The Home

usually housed 25-30 residents at any one time.

In 1896, the Smith Estate sold 96 acres to the Pennsylvania Epileptic Hospital and Colony Farm, which benefited both men and women. After advances and changes were made in the treatment of epilepsy, the Colony Farm Board changed its focus. From 1947 until 1965, it was known as Oakbourne Hospital and was a treatment center for emotionally disturbed children. This acreage has since been subdivided. Today, part of it is the location for Gaudenzia House (an addiction treatment facility), part is a portion of the Pleasant Grove neighborhood, and a third part has been returned to Oakbourne.

During the time it was used as a retreat for women, significant changes were made to the mansion. An early 20th century English Tudor-style wing was added on the south side and later a large meeting room was attached to the western end. The top of the observation deck was removed and was replaced by a flat roof. The large front porch was also removed. Inside, a small chapel was created adjacent to the center hall in 1917.

In 1971, the lack of funds forced The James C. Smith Memorial Home to close. In 1974, the Westtown Township Board of Supervisors voted to purchase the 47-acre property. The original plan was to tear down the mansion and accompanying structures, but an astute planning commissioner opposed the idea and was successful in saving the historic buildings. Portions of the 96 acres of the original estate that were sold in 1896 were either purchased by or donated to Westtown Township, thus creating the current 93-acre Oakbourne Park.

Today only Oakbourne Mansion's first floor is available to the public. Part of the second floor is used as full-time living quarters for a caretaker. The upper floors have not yet been restored. In addition to the Mansion, still existing on the property are the previously described water tower, a carriage house/garage, and the gate (tenant) house.

Bibliography:

A History of Westtown Township, Arthur E. James, 1973

PHMC Historic Resource Survey Form, Evaluator M. L. Wolf, Brandywine Conservancy, 1981

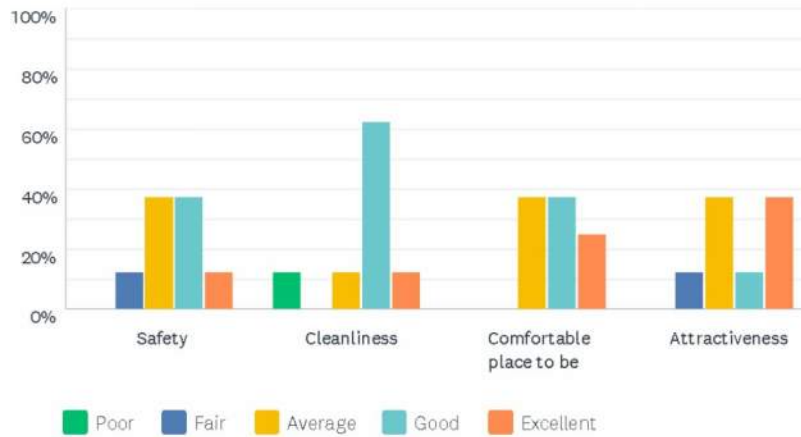
Newspaper Article, May, 1985

APPENDIX B: PARK STUDY COMMITTEE PARK EVALUATION SUMMARY

Oakbourne Park Committee Evaluation

Q1 How would you rate the image of Oakbourne Park on the following qualities?

Answered: 8 Skipped: 0



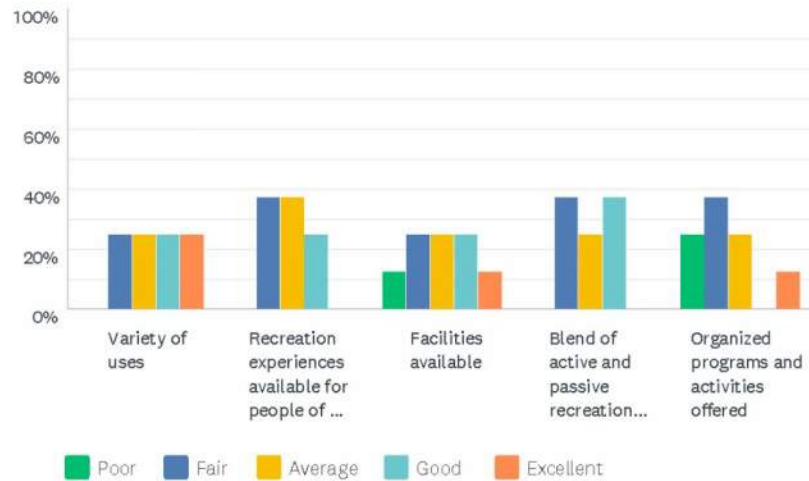
	POOR	FAIR	AVERAGE	GOOD	EXCELLENT	TOTAL
Safety	0.00% 0	12.50% 1	37.50% 3	37.50% 3	12.50% 1	8
Cleanliness	12.50% 1	0.00% 0	12.50% 1	62.50% 5	12.50% 1	8
Comfortable place to be	0.00% 0	0.00% 0	37.50% 3	37.50% 3	25.00% 2	8
Attractiveness	0.00% 0	12.50% 1	37.50% 3	12.50% 1	37.50% 3	8

#	PLEASE COMMENT:	DATE
1	I've been using Oakbourne Park for decades and have always felt very comfortable and safe there. The park is clean except for the Porta potties; I very seldom see any litter. And, of course, the park is very attractive and unique!	7/10/2020 2:57 PM
2	Grounds (pavilion, open space, playground,...)and trails can be cleaned up some to make more appealing	7/10/2020 11:50 AM
3	Gorgeous park. Remember that this is an arboretum. Could use some additional ADA features.	7/9/2020 10:22 PM
4	Attractive but to a certain degree and certain audience. It needs a modern touch.	7/8/2020 12:38 AM
5	The mansion and water tower are just beautiful and they offer the park a very unique center piece. The problem is that they are not very visible from the road.	7/6/2020 12:24 PM
6	The disjointedness of the park is probably the aspect that makes it the least attractive.	7/6/2020 7:50 AM

Oakbourne Park Committee Evaluation

Q2 How would you rate Oakbourne Park on its uses and activities?

Answered: 8 Skipped: 0



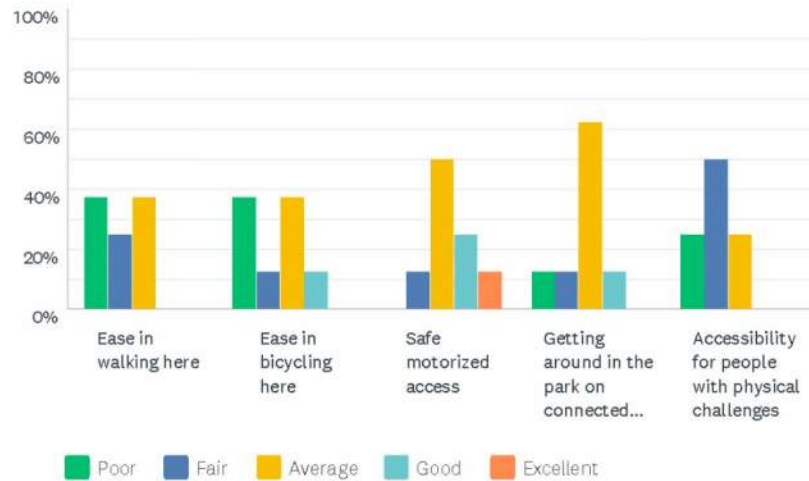
	POOR	FAIR	AVERAGE	GOOD	EXCELLENT	TOTAL
Variety of uses	0.00% 0	25.00% 2	25.00% 2	25.00% 2	25.00% 2	8
Recreation experiences available for people of all ages	0.00% 0	37.50% 3	37.50% 3	25.00% 2	0.00% 0	8
Facilities available	12.50% 1	25.00% 2	25.00% 2	25.00% 2	12.50% 1	8
Blend of active and passive recreation uses	0.00% 0	37.50% 3	25.00% 2	37.50% 3	0.00% 0	8
Organized programs and activities offered	25.00% 2	37.50% 3	25.00% 2	0.00% 0	12.50% 1	8

#	PLEASE COMMENT:	DATE
1	I am not a fan of the cookiecutter qualities of the "ideal" park presented at our initial session. Our park is unique and it should not be turned into a so-called "ideal" park like East Goshen which I do not find attractive for me personally.	7/10/2020 2:57 PM
2	Playground, parking, seat benches needs more upgrades, permanent bathrooms would be of value, Additional signage	7/10/2020 11:50 AM
3	More activities for adults and families, including educational activities, would be welcome.	7/9/2020 10:22 PM
4	Would love to see more recurring events/activities throughout warmer months	7/8/2020 12:38 AM
5	The park is under utilized. Today when I visited there were only 2 other cars in the parking lot in the midst of the covid crisis. At either East Goshen Park or the Ockehocking Preserve there would more than a dozen cars at various times during the day.	7/6/2020 12:24 PM
6	The park suffers from a dearth of available recreation experiences.	7/6/2020 7:50 AM

Oakbourne Park Committee Evaluation

Q3 How would you rate the access to and within Oakbourne Park?

Answered: 8 Skipped: 0



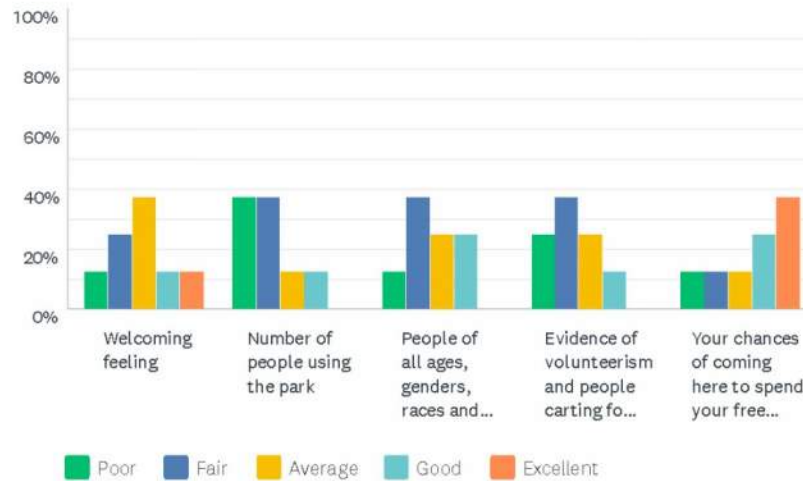
	POOR	FAIR	AVERAGE	GOOD	EXCELLENT	TOTAL
Ease in walking here	37.50% 3	25.00% 2	37.50% 3	0.00% 0	0.00% 0	8
Ease in bicycling here	37.50% 3	12.50% 1	37.50% 3	12.50% 1	0.00% 0	8
Safe motorized access	0.00% 0	12.50% 1	50.00% 4	25.00% 2	12.50% 1	8
Getting around in the park on connected pathways	12.50% 1	12.50% 1	62.50% 5	12.50% 1	0.00% 0	8
Accessibility for people with physical challenges	25.00% 2	50.00% 4	25.00% 2	0.00% 0	0.00% 0	8

#	PLEASE COMMENT:	DATE
1	This is a suburban park and there are no sidewalks to provide easy walking access to the park. For the residents who live adjacent to or relatively close to the park, there are numerous access points, some requiring crossing somewhat busy roads.	7/10/2020 2:57 PM
2	Concord & Pleasant Grove roads are not the safest for entrance, and steep slopes make ADA challenging, need improved signage	7/10/2020 11:50 AM
3	I didn't note any ADA features	7/9/2020 10:22 PM
4	The trails are not well marked and there is only limited access to the park where the Oakbourne Park walking trail intersects local streets.	7/6/2020 12:24 PM
5	Even driving to the park is a bit dangerous, let alone walking or biking.	7/6/2020 7:50 AM

Oakbourne Park Committee Evaluation

Q4 How would you rate Oakbourne Park on its sociability?

Answered: 8 Skipped: 0



	POOR	FAIR	AVERAGE	GOOD	EXCELLENT	TOTAL
Welcoming feeling	12.50% 1	25.00% 2	37.50% 3	12.50% 1	12.50% 1	8
Number of people using the park	37.50% 3	37.50% 3	12.50% 1	12.50% 1	0.00% 0	8
People of all ages, genders, races and cultures using the park	12.50% 1	37.50% 3	25.00% 2	25.00% 2	0.00% 0	8
Evidence of volunteerism and people carting for the park	25.00% 2	37.50% 3	25.00% 2	12.50% 1	0.00% 0	8
Your chances of coming here to spend your free time	12.50% 1	12.50% 1	12.50% 1	25.00% 2	37.50% 3	8

#	PLEASE COMMENT:	DATE
1	I visit this park on an almost daily basis. The number of people using the park can vary greatly from being crowded or relatively crowded to very few people. To me, the beauty of the park is sublime and welcoming, a feeling I personally do not get at other area parks. The Friends of Oakbourne is a non-profit volunteer group that has put in thousands of volunteer hours over the years. Also, boy and girl scouts as well as school groups have volunteered care at the park.	7/10/2020 2:57 PM
2	Would like to see more township residents utilizing park, volunteers for Friends of Oakbourne & Park Committee improving and getting more involved, increasing events will get more engaged and more future visits	7/10/2020 11:50 AM
3	I live within walking distance so obviously Continue to use the park a lot with my daughter and son.	7/8/2020 12:38 AM
4	Now that I have discovered the Oakbourne Park Walking Trail on the other side of S Concord I will use the park more often.	7/6/2020 12:24 PM
5	There are very few people who are at the park on any given day.	7/6/2020 7:50 AM
6	There are very few signs, but of the ones there - especially by the mansion- most of them are not welcoming, but forbidding.	7/3/2020 8:45 AM

Oakbourne Park Committee Evaluation

Q5 What is the one change we can make that you think will have the most impact?

Answered: 8 Skipped: 0

#	RESPONSES	DATE
1	Improve and maintain the park's trails; make it easier and safer to access the park by walking and make it safer to cross S. Concord Road so that park patrons can easily and safely access the park and trails on both sides of S. Concord Road. In the park on the east side of S. Concord, add a new portion to the existing trail that will allow users to make a loop on that side of the park. This would involve construction of a north/south oriented trail that parallels S. Concord Road.	7/10/2020 2:57 PM
2	Topic - improve park use by township residents: Park & trail signage to make more user friendly along with more township events to provide more awareness of what park has to offer	7/10/2020 11:50 AM
3	Have the BOS appoint a Parks and Recreation department to manage and maintain Westtown's parks and events.	7/9/2020 10:22 PM
4	Tough question with this park as it needs, in my opinion, a great deal to be a great park. I would say improved facilities/access	7/8/2020 12:38 AM
5	Clean up the walking paths and create better signage for those paths.	7/6/2020 4:25 PM
6	The park needs better signage of all types & varieties to delineate different areas/uses of the park, to identify different varieties of trees & to mark trails.	7/6/2020 12:24 PM
7	Upgrading the playground, as a new, unique playground would draw a lot of young families.	7/6/2020 7:50 AM
8	Cleanliness and maintenance would be a start. The paths in the woods were not cleared of debris and trash cans were absent so trash was strewn around the grounds.	7/3/2020 8:45 AM

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APPENDIX C: COMMUNITY INPUT SURVEY

October 2020 – January 2021

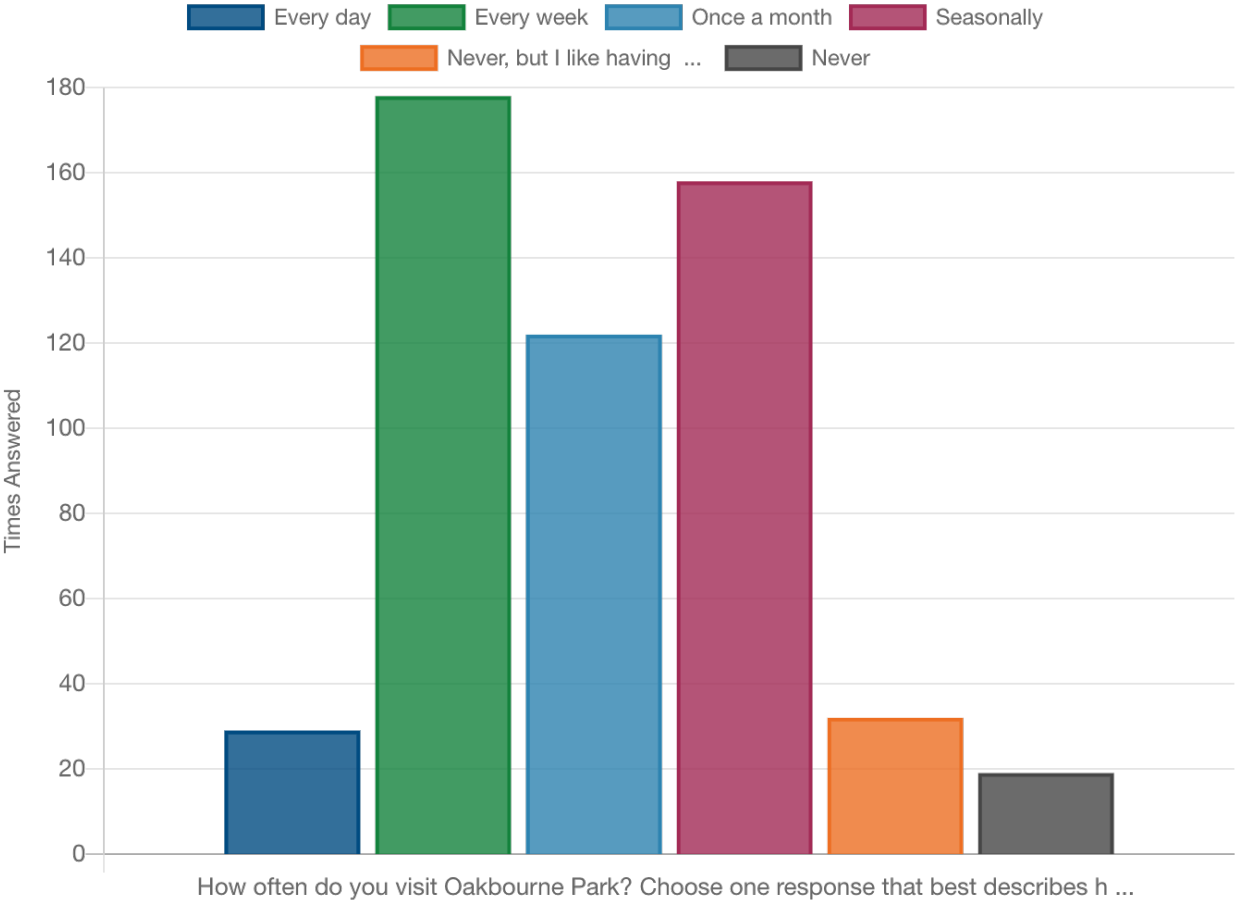
Detailed Responses to the Questions

The following charts present the answers to each question in the survey.

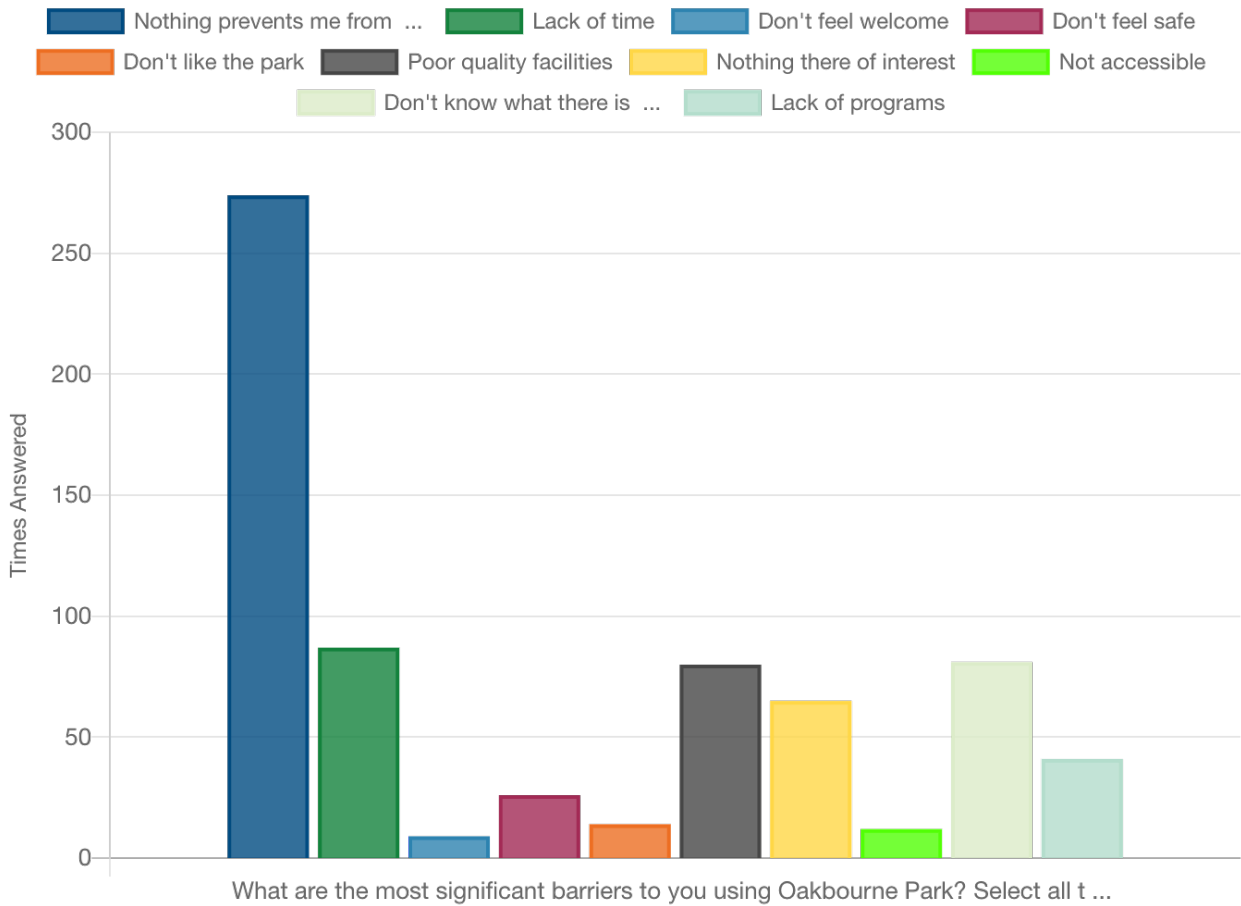
Comments

Respondents took the time to provide 303 comments. Most of these were about the installation of permanent restrooms. The Word Cloud below the comments illustrates the words most used in the comments.

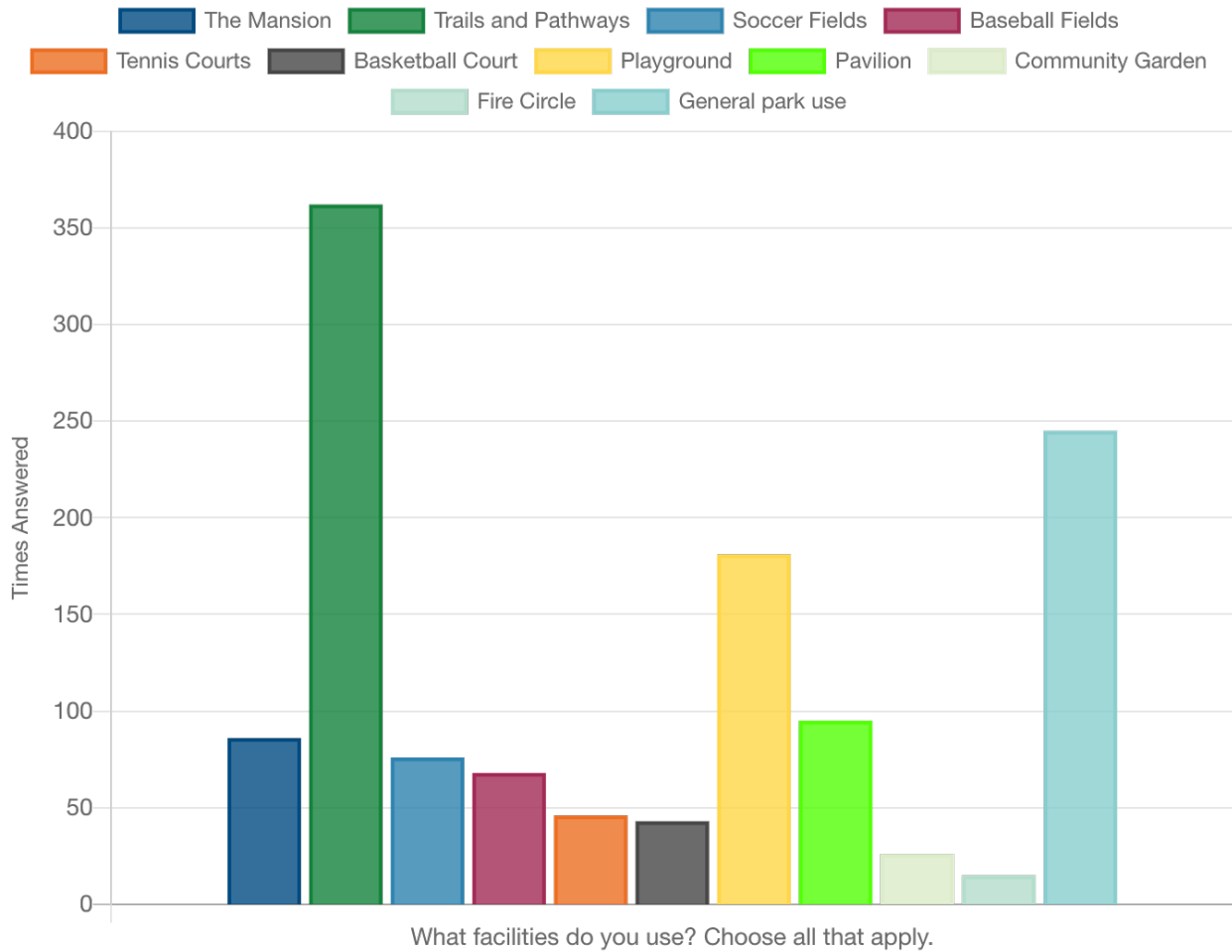
How often do you visit Oakbourne Park? Choose one response that best describes how frequently you go there.



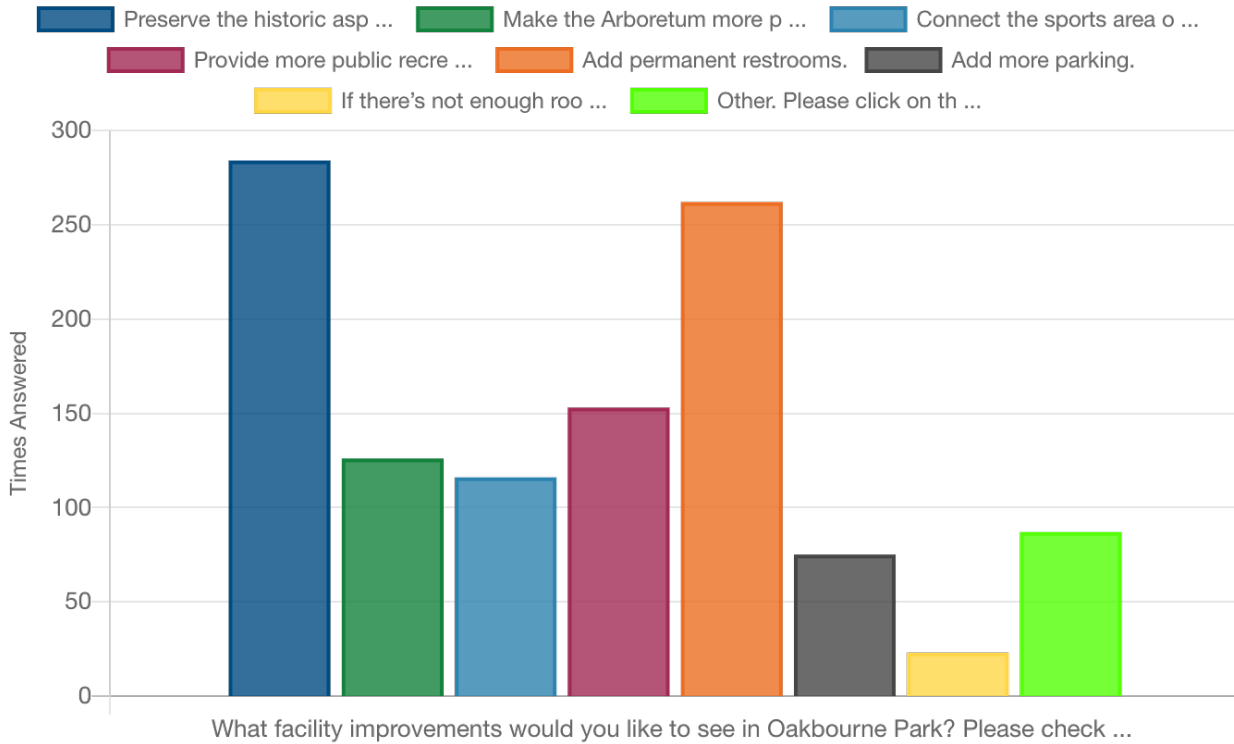
What are the most significant barriers to you using Oakbourne Park? Select all that apply.



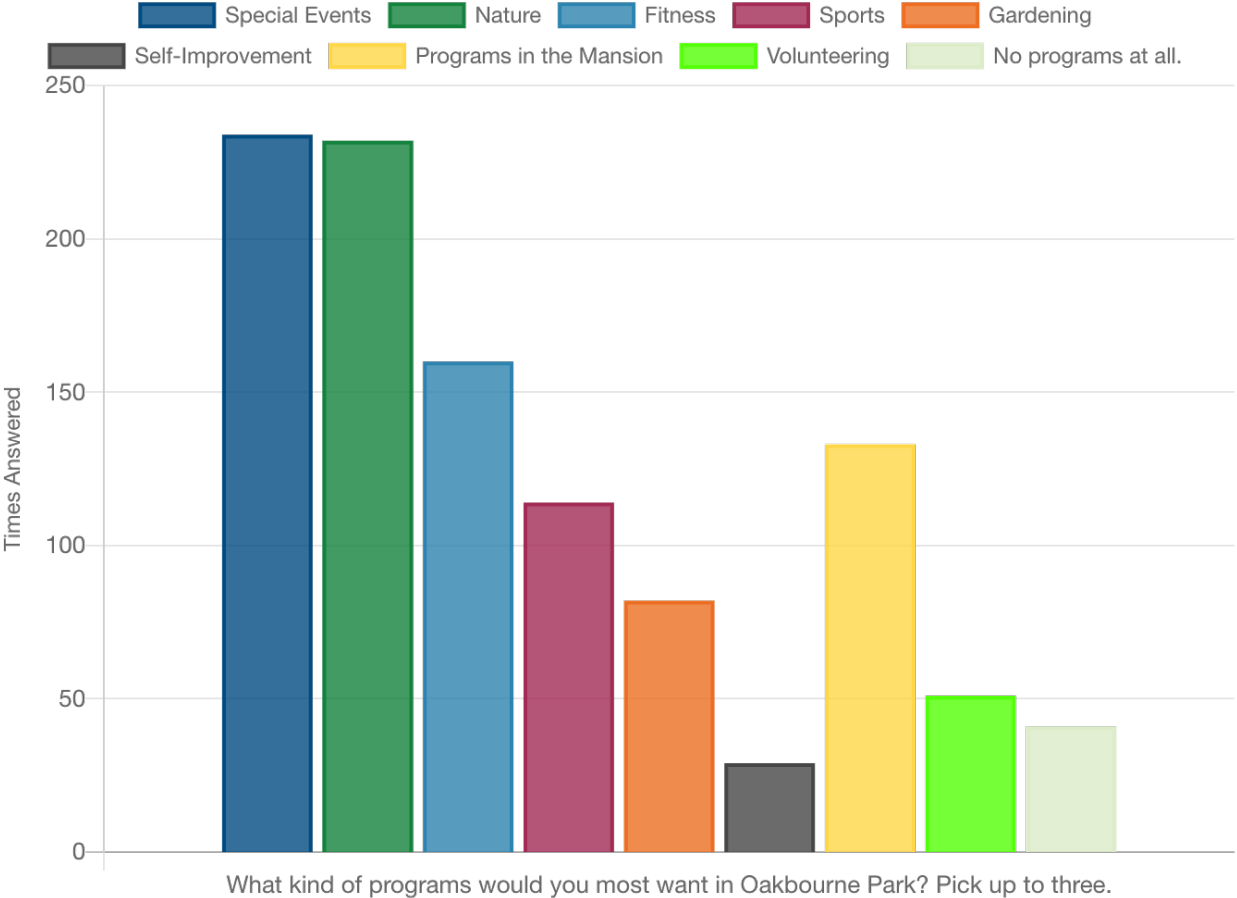
What facilities do you use? Choose all that apply.



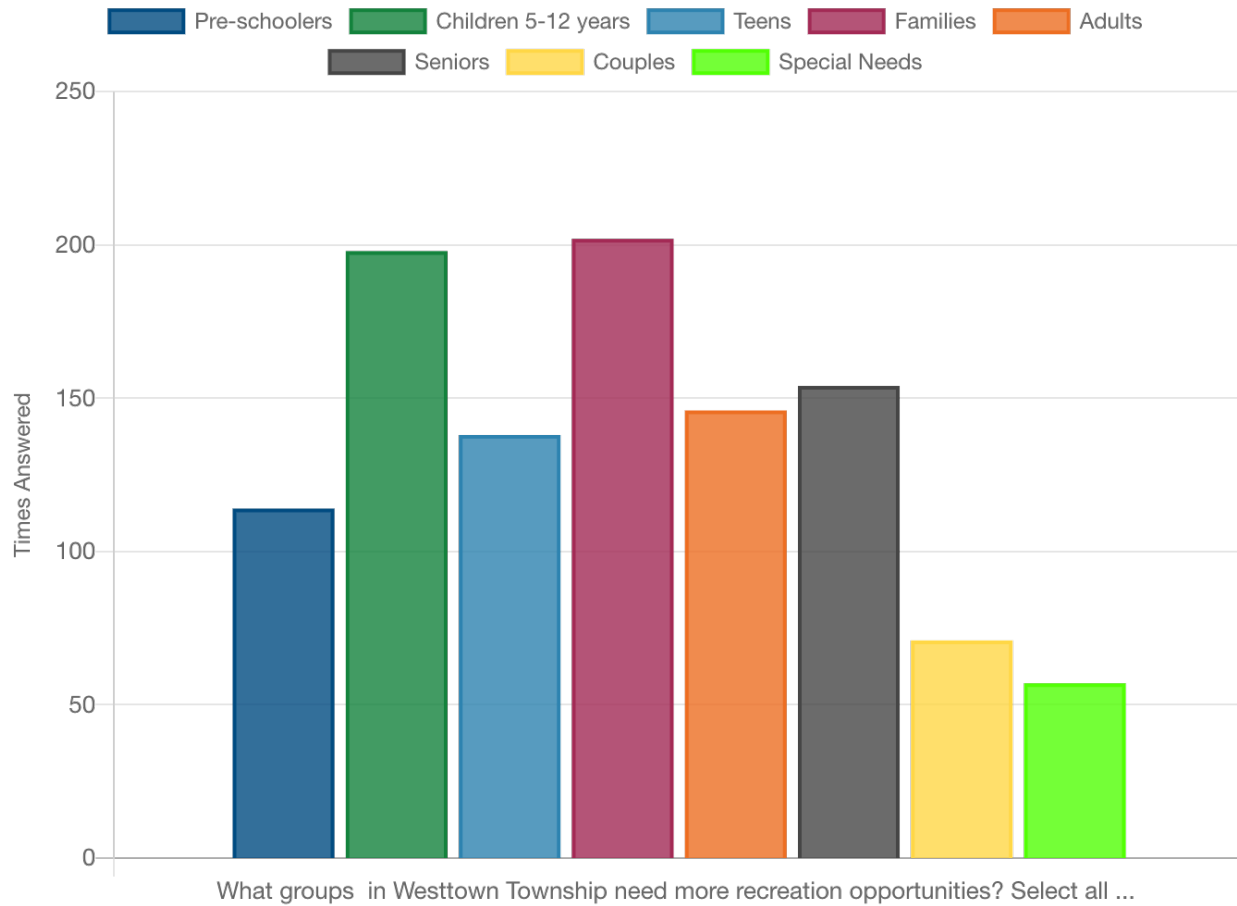
What facility improvements would you like to see in Oakbourne Park? Please check the improvements you would like to see made. If you'd like other improvements, please click on the white bubble in the blue bar above to type in your ideas.



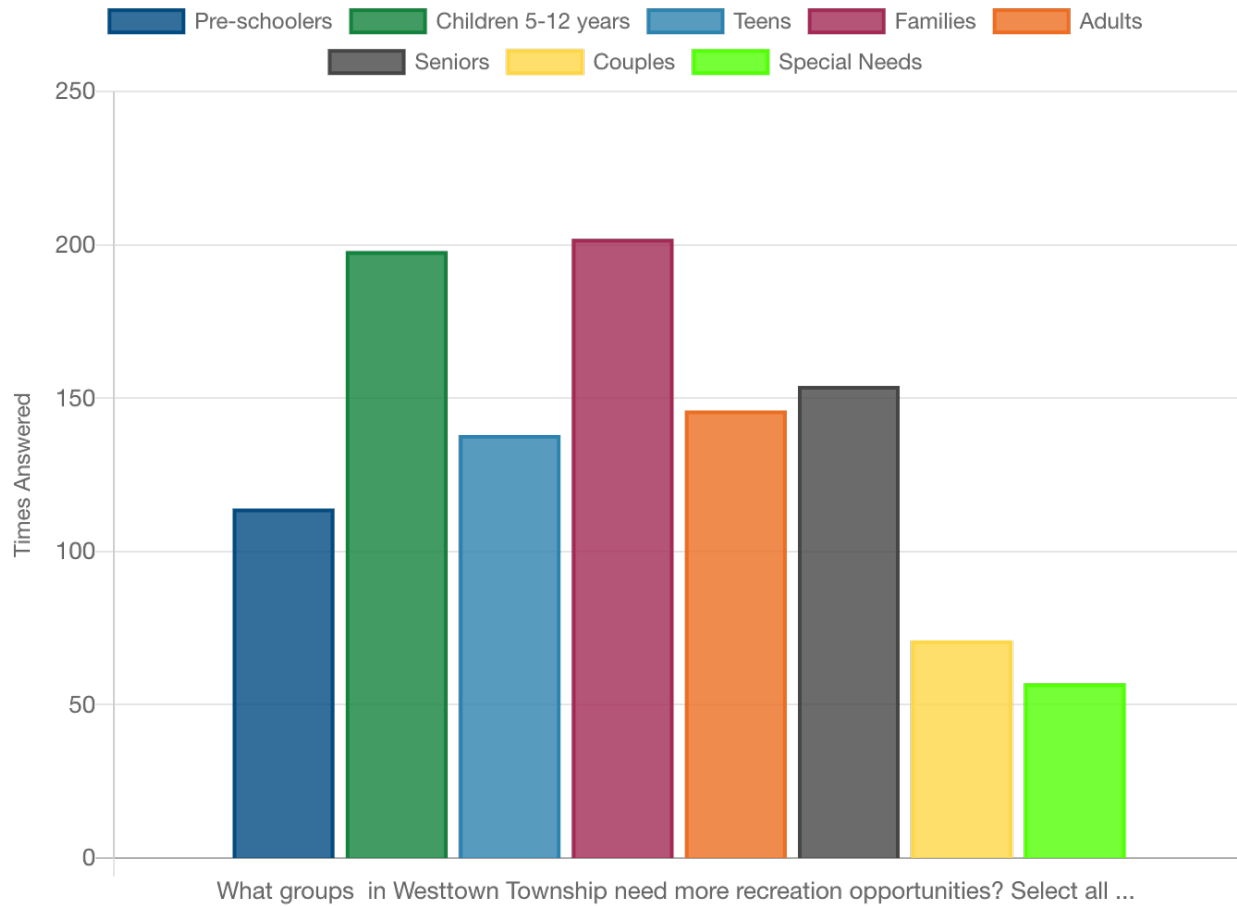
What kind of programs would you most want in Oakbourne Park? Pick up to three.



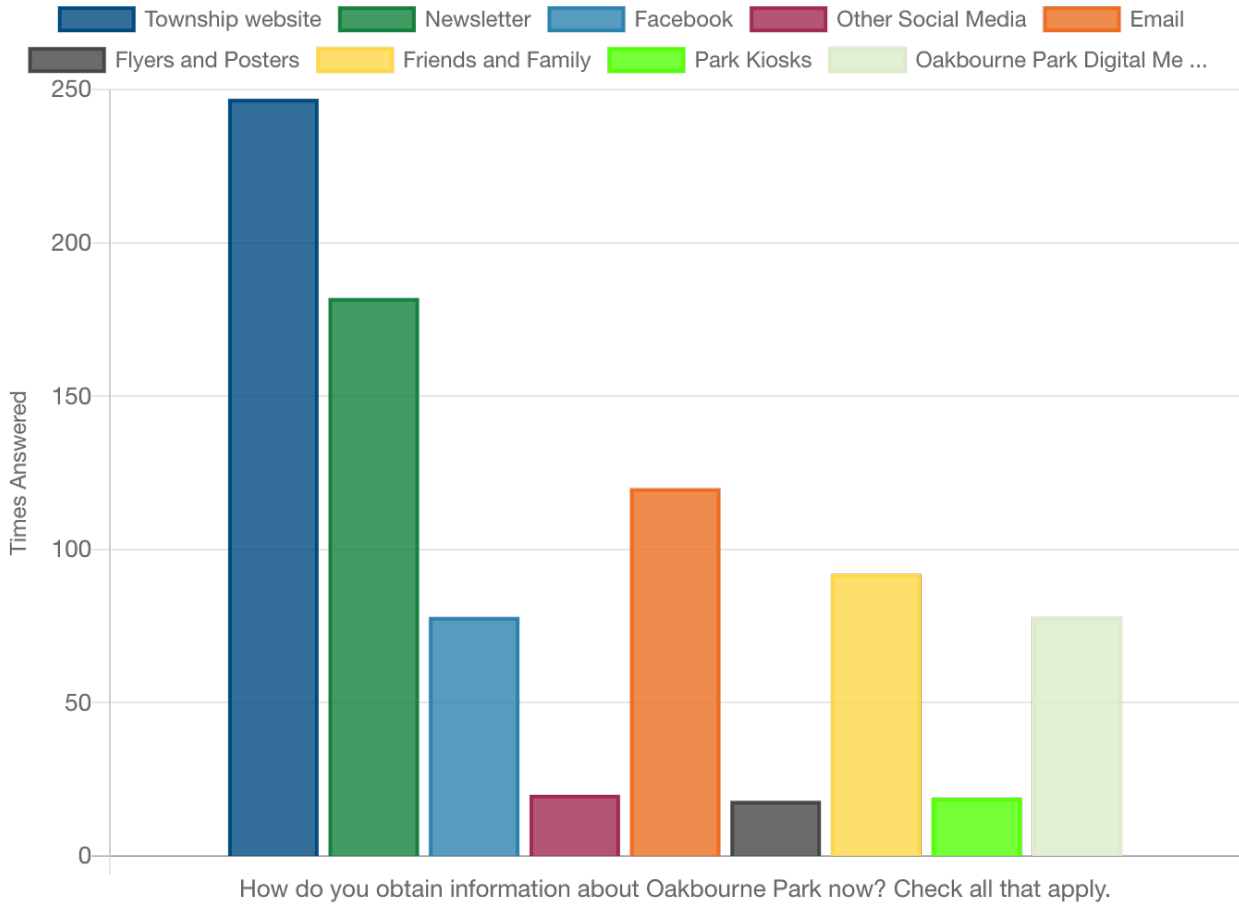
What groups in Westtown Township need more recreation opportunities? Select all that apply.



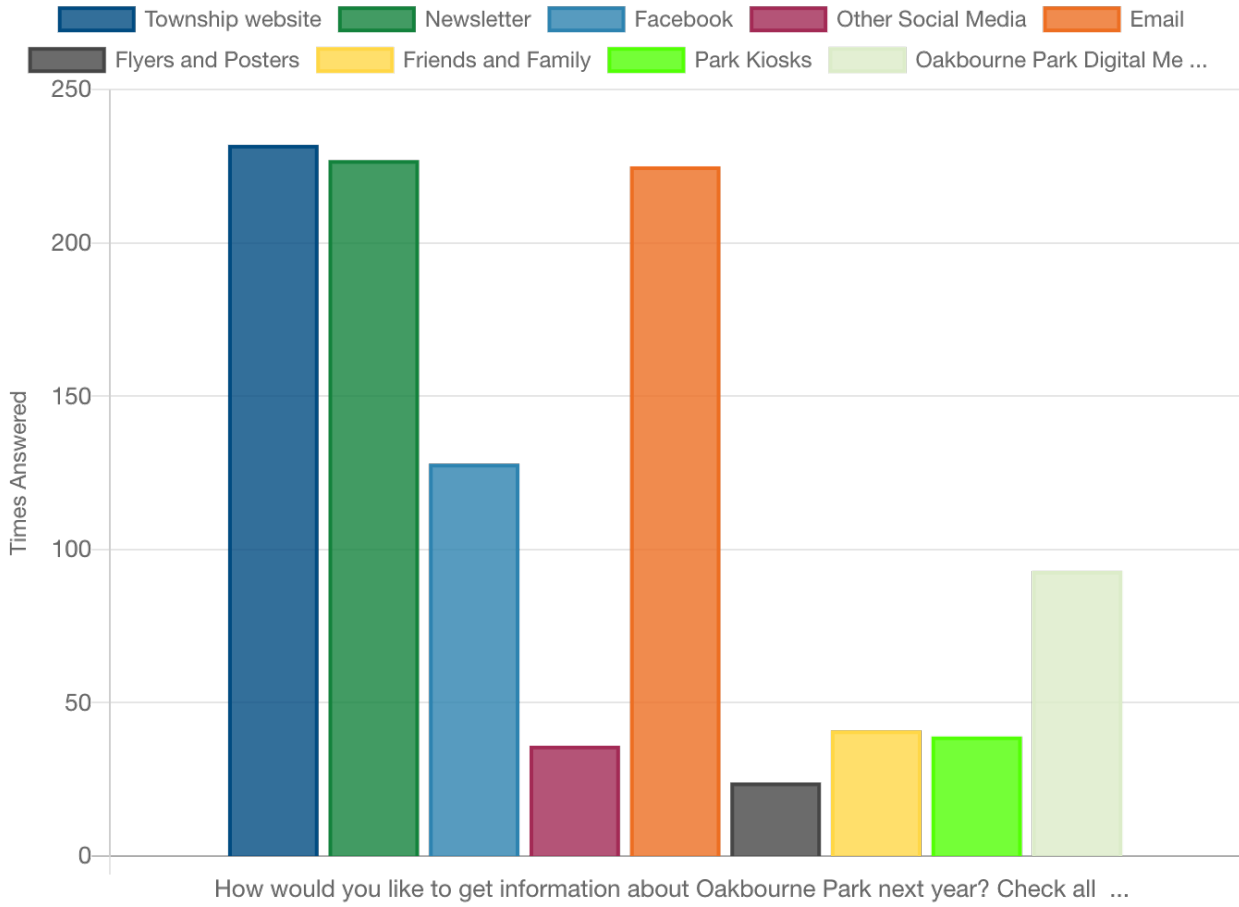
What groups in Westtown Township need more recreation opportunities? Select all that apply.



How do you obtain information about Oakbourne Park now? Check all that apply.



How would you like to get information about Oakbourne Park next year? Check all that apply.



Comments

Inform the public about the history of the park

Having restroom facilities would definitely improve the use and allow people to spend more time at the park. Also the playground has a few sharp surfaces. My son needed stitches last year after visiting the playground and hitting his leg on a ladder.

Develop the pond area. Make a more established path so we can push a stroller or fish.

Make a more established path around mansion. It is difficult to navigate with stroller and kids in tow.

Keep the kids programs in the summer!

Water pad for kids to play in like sprinklers coming out of ground.

Monthly byob dinner club at mansion or offering some type of summer nights picnic where you can decorate your table.

Food truck events

Improve trails by adding signage, benches and wood chips to make the trails more enjoyable. Improve signage about the key areas park and rest room facilities.

The field set up with no playground near it seems disconnected. Other area parks seem to combine some of these aspects and it encourages spending more time there.

Better/another access from Pleasant Grove.

Provide a flashing light and better signage for paths on other side of Concord RD. Make the pond accessible. Have a path that is paved to allow easier access, Make REAL signage for the paths and a map along the route.

Updated playground equipment for 2-12 year olds

NO MULCH

Fire pole

Rock climbing wall

Zip line

Sand pit, digging area

Plenty of benches for parents to sit

Easy close access to water fountains and bathrooms

Splash pad

Shaded areas

- Water fountains
 - Safer access to the park from Pleasant Grove Rd. for pedestrians and bicyclists
 - Consider a fitness/circuit trail
 - Upgrade picnic table area
 - Upgrade/expand basketball court
- Water fountains
 - Safer access to the park from Pleasant Grove Rd. for pedestrians and bicyclists
 - Consider a fitness/circuit trail
 - Upgrade picnic table area
 - Upgrade/expand basketball court

Make more attractions for children

We would love a playground for all ages of the community to come together. Family swings, more swings. Playgrounds for toddlers and up as they grow. Love the community garden and will look at getting involved there. Splash playgrounds are a welcome option in the summer months. Climbing domes or climbing walls for the older kids. Just ideas. We love being able to walk through the woods from our neighborhood to get to the park.

I'd like to see a bigger playground area with fun, bigger equipment for slightly older kids (my four year old still likes the playground but there isn't much for my seven year old). I'd also love a nicer pavilion (maybe multiple pavilions) with nicer picnic tables. They could be rented out for birthday parties in addition to be used generally by park goers. We used to live in Montgomery county and there will be several parks with these accommodations, but none that I know of in west Chester.

I think that the park would benefit from an overhaul of all existing "attractions". For example- fix up the athletic fields, maybe turf soccer fields, better baseball fields, pickle ball, better basketball courts. Add restroom. Add a small playground on the desiderata if the athletic fields for younger siblings that are attending athletic events. And I would love to see the trails improved- better signage, more connections, some paved for families with strollers, etc.

A paved or gravel loop for walking, running etc.

Dog park

Or at least enforce the leash law

If it ain't broke, don't fix it

The trails are good but need improvement. We like to walk the dog but some areas are either very muddy, overgrown, or hard to trek. I would also like some signs of what areas are part of the park. Some areas seem like private property but are actually part of the park.

improving current facilities and adding new recreational equipment for children

Add signs to the trails (length, trail name and map), add new trails, expand playground

Historical aspects to explain the mansion's past

Update the playground and pavilion. Improve signs and lighting.

Improve your he trails, distance markers, fix washout/muddy areas, connect to Cope Tract Path safely

Safely connect to Cope Tract, create a huge destination playground area like Manderach Park in MontCo.

Would LOVE a visible walking trail like East Goshen Park. I do not feel safe walking in the woods at Oakbourne Park.

Enhance the pond and the stream to make a natural play area for middle schoolers and young teens. Add a dirt bike path for teens with little bridges and small ramps.

Fix up and add small signs to the neighborhood access trails that connect the park to the surrounding neighborhoods. There are several access easements that have been overtaken by property owners not wanting the public utilizing these access points due to the proximity to their properties. Restore gate house and add historical markers describing the original estate functions.

Restore stone wall and entry piers along Oakbourne Road.

Provide permanent restrooms at sports fields, restore Gate House, stone walls and entry piers along Oakbourne Road, upgrade trail signs to direct people to trail on the other side of the park (down toward the stream) and access signage at the remote access points in the neighboring areas. Fix up post and rail fencing around the park and add additional around the basketball court. Could also have a large fenced in dog park.

The only things that need improvement relative to the use they receive are (primarily) the basketball court and the tennis court. Bathrooms near the sport sections would be a nice addition

Full bathroom at the sports fields. Re pave the basketball court and tennis courts although the tennis courts could probably be better used as the site of the new bathrooms or parking

It would be wonderful to add lights to the tennis courts. There are no public tennis courts with lights in West Chester.

Lights at the tennis courts would be wonderful. It is something that is not only missing at Oakbourne Park, but in West Chester in general!

More parking, more programs- fall movie nights, summer programming for kids, concerts,

Model rocket club. Yoga in the park

I think more people would garden if the Community Garden was bigger.

Replace stairs to baseball and soccer fields or regrade. Repairs to mansion. Bathrooms at both upper and lower levels. Real playground equipment ala east or west goshen. Paved parking for athletic fields.

Perhaps have an actual carnival come to the park to draw families. There has been a focus on small children programming, who Co is great, but facilities for older kids are poor. Tennis courts should be open to public, baseball and soccer fields should be more handicapped accessible, and there should be bathrooms. Also, it would be good to have concerts in the park, provide a venue for live music. And it has to be better advertised, no one reads those mailer things anymore.

A fenced off-leash dog area would be FANTASTIC!

I know this may seem like a great deal, but working together and hopefully including as many "new" neighbors as we can, this can be goal.

More maintenance on tennis courts and basketball courts

I would like to see something patriotic and historical done on the hill behind the basketball court (on E. Pleasant Grove Road.) Relocate the "Taylor" Monuments" in a nice arc near the tree line and facing the street with nice landscaping and a large flagpole w/ flag. A nice bronze plaque detailing the Taylor family importance to Westtown could be added. Plenty of parking is available for visitors and for celebratory events.

Our park is not able to sustain lots of traffic - right now there are sports programs that are bringing many many vehicles into the park and drivers are not following signage to drive certain directions and are driving way too fast on narrow park roads. Flag football is one of the sports causing these problems. This should be a natural wooded and trailed park - not a sports field park. Don't pave paradise and put up parking lots please!!

I would love to work on engaging a program that would get school age kids involved as the future "keepers" of the park. I've also seen "senior" playgrounds, with different stations to help them exercise.

A bigger, more extensive playground area or even multiple playground areas would be wonderful. Repairs to tennis courts.... they're a mess. Maybe closer to fields and tennis courts. Tends to be too secluded where the current play area exists..... don't always feel safe.

Improve the paths.. add exercise tips along the paths..benches

I like the relatively modest development at Oakbourne

I would like to see the Community Yard Sale return and also movie nights

Would like the paths to be more easily identifiable. Some are obvious, others not so much for newer visitors. Also, when I was single I never felt as safe going down the paved path to get to the wooded area. It's tucked back and feels "creepier" than other parks. Signage re: patrols? Call out safety features of park? Cameras? Call box?

Disney themed events for families? Offer space for groups with special needs? Are there wheelchair friendly paths in the woods?

Dog adoption events? Dog therapy events for kids and adults w special needs?

Natural playground for kids to explore and use imagination

Walking to the field across the road needs a cross walk and a marked trail around the corn field.

A dog park area would be nice

It would be nice if the trails were extended and connected. On some spots they can get muddy

Tennis courts repaired/expanded.

Pave the upper stone parking lot and redefine the access drive to /from it.

Redefine the pond area and maintain it as a fishing destination for youth. Flatten the steep banks and dredge the muck and cattails. Perfect place for nature programs and exploration in the areas surrounding.

Rebuild the tennis and basketball courts and enhance the parking of the athletics area. I like the separation between the two areas, main park/sports area.

Make the playground users feel more comfortable during the day given the close proximity of the pavilion and its users.

Love the park! The only area we avoid are the walkways around the pond because it gets very muddy there.

We recently discovered the trails on the east side of Concord Rd., so maybe some signage for cars to slow down- trail crossing signage or roadway markings to indicate trail crossing on Concord Road near the continuation of the park by the Stonewall Farm driveway and where the other end of the trail crosses back(by the soccer field).

Change the cornfield to public access parkland.

Park needs gathering areas with seating, needs much improvement in signage, trails need improvement, access to pond and stream should improve.

General lower field

Improve the trails, especially some of the trails in the woods. Portions of these trails are significantly rutted and contain large tree roots. Connect trails in Cope Tract to form a loop and also to connect with trails in the main park (west side of Concord Road).

Improve the park by improving and maintaining what we already have. Do not overdevelop the park and destroy the beauty and quiet that permeates the existing park.

No more lights. Light pollution in the Township is getting worse. The sign and post light do not help.

I would love it if there was more use of the mansion to the public like the historic programs you've suggested. It would be so cool if there was a monthly tour or if you could schedule a personal one.

Get permanent bathrooms and maybe set up with signage a 5k xc loop.

It's a catch-22 because Oakbourne park has that "hidden gem" feel to it but I feel like there should be way more West Chester/Westtown events happening on the mansion grounds. I'm assuming the Township makes money on these events to be used to improve the park so we really need to promote better. Personally, I'd be interested in helping market/promote use of the mansion and have experience doing that if you're looking for someone. Tom Wittig tom.wittig.jr@gmail.com

Oakbourne is special and my family would like to see it stay that way. People who want big a playground, paved parking lots and trails, and bathrooms can find that at other nearby parks. Oakbourne is one of the few parks with good, basic amenities in a rural, natural setting. Don't ruin that. Upgrades are warranted on the athletic side, but leave the mansion area alone.

upgrade the walking trails

Improve the pond area to be more accessible....fishing friendly for children

The water tower is beautiful. Find a way to safely open it to the public

More picnic tables would be nice.

Park with plenty of parking, accessibility range of events and options,

Creating a unique wY for families to interact with nature would be neat! Like more plaques explaining what different types of plants, etc there are....plaques about the history of the mansion.

Fire circle activities for families, music events to bring people in etc

Better bathrooms, updated playground, less sports/big crowds... cars go very fast and gets congested.

Big groups from Gaudenzia smoking at playground

Horseshoes, frisbee golf, yoga classes, mansion tours, water tower tours

Concerts, children's shows. Halloween costume party for kids.Gardening classes. Coffee with the supervisors meeting.

We love Oakbourne as it is but if there's anyway to make more hiking trails we'd love that!

Enlarge the playground, handicap accessible as well and partially shaded

We live fairly close to the park. We can walk on a trail and get there in 15 mins, or we can take a 5 minute drive. The #1 reason we don't stay very long is because there are no bathrooms (or we don't know where they are). With 2 little kids (2 and 6) the bathroom is a necessity.

The playground is generally only geared toward elementary aged kids. Much of the play structure is difficult/unsafe for toddler or preschool aged children's use.

Restore it to the original landscaper's idea. Add permanent restrooms. Improve and mark the existing trails.

More playground equipment, zipline like east Goshen, Benches

No programs are needed. With organized sports (soccer, little league, etc), after school activities, scouting, etc., there is plenty for the children. If families, adults, seniors or others want to use the park, there is nothing stopping them.

Updated playground- isn't much to do there for kids. It's so convenient, but we typically go out of the township to the nicer playgrounds.

Go to West Goshen Park or East Goshen Park and copy them

A safe and improved playground (similar to east Goshen park), paved trails, and more community events

Adult oriented programs in the mansion would be great, such as lectures, food and wine events, book clubs, etc.

Add an amphitheater for concerts

Amphitheater

Fitness course

Trail signs with markers.

Offer more recreational sports and improve on site courts

A playground that can include more age range, zip line, pickle ball, things like East Goshen park

Disc golf and more sports fields, skate park.

Pickleball

Place for children of all ages can enjoy with their family

Major overhaul of the playground. I have to travel across town to East Goshen park or over to Thornbury park to spend a fulfilling afternoon with my kids. Check out their programs too!

Would love weekly live music in the summer, use for more holiday events/arts shows/beer/wine-tasting events, antique/historic events

Clear path signage, family bike path loop. The bike path doesn't need to be long. Kids in the area just need a safe place to ride. Would like to see a kids play area that can be utilized for water/sand play that is able to alternate depending on season. Water play for spring/summer and switching over to sand for other seasons.

Some unique but very targeted childrens play equipment would set it apart from other parks: <https://www.richter-spielgeraete.de/en/playground-equipment/downloads/>

<https://www.richter-spielgeraete.de/fileadmin/content/ml/Spielgeraete/Downloads/en/Brochures/Short-brochure.pdf>

I think it would be a great spot to have more community events. Obviously that was rough this year, but once Covid is over, I would love to see more family days, food truck festivals, etc.

The traffic in and out of the park is sometimes scary especially when an event is letting out and you are trying to get in. It feels that the road is only one way.

A more natural playground would be awesome. Outdoor classroom space. Nature and History lessons during the day for homeschoolers (there are lots in the area even pre-Covid)

The mansion and fountain are amazing! Make repairs / preserve theses beautiful structures! Teach about the history and if repaired, then (post pandemic) it could be rented for events to help defray cost.

Improve the pond area. Pond needs to have solar filtering options, fountain.

Improve the restroom facility in the park.

Paving the stone parking lot

well kept trails for seniors. benches along trails

Dog park

Walking trails

Yoga in the Park. This may not be feasible at Oakbourne, but paved bike/walking paths. It's a shame you can't walk to Oakbourne unless you access on Dogwood or Pleasant Grove because Concord is so narrow and dangerous. Also, do people even know about the hiking trail on the other side with the corn field? Better traffic flow from the back parking lot. I saw the new signs, but need more signage and arrows and maybe widen where the rocks are so two cars can get through.

Family and children's programs are great. Always enjoy the Winter Festival.

Would love to see a large park!

The trails- specificities across the street need better markings.

passive park space is important. not every space needs a pre-defined use.

Fix the upstairs of the mansion.

Couple events like a monthly wine tasting, spotlight local chefs, local restaurants, etc.

Local networking opportunities for business owners, entrepreneurs etc.

more biking trails paved and off road. Disc golf course. Kids fishing pond

RESURFACE THE TENNIS COURTS!!!!!!!!!!!!!!!

Make it more inviting (similar to Thornbury park or West Goshen park). We live on S Concord, but my kids prefer those parks. More family activities and events would be good too.

Amphitheater and fitness trail. Add fitness stops with equipment along the walking trail. Pave that trail. Amphitheater use for more public events.

Love movie nights. Maybe some family friendly live music.

Modest improvements to the basketball court. Maybe repave it (still leave the stone walls in place- its very cool). Possibly upgrade the backboards. Not mandatory- but figured I'd make this observation.

Pickle ball.

Also install a 9 / 18 hole disc golf course around the perimeter of the park on mansion side. Our teenage son and his friends play a mock version of this where they use a hoola hoop and put it in places around the park.

Installing a 'real' course with the actual disc golf nets would move teenagers / adults around the grounds. Could be positioned in such a way there are no safety concerns. And its not an eyesore. Not too expensive. Check out Brandywine Creek state park for ideas

Better trail signage and markings. Label historical locations off of trails, e.g. location of gatehouse, pump house, etc. Lots of lost history out there.

It would be wonderful to have weekly walking groups meet at the park to use the trails, yoga classes in the arboretum for a small fee to cover the instructor. Gardening programs would be great. Recreational tennis lessons would be fantastic for my tween/teens.

Great place, basic upkeep

Fix up pond area to make it more accessible and useable. One area around the pond tends to be soggy and muddy most of the time, so landscape to add fill dirt to raise the ground level. Possible renovate the now drained pond area that is located to the east of the existing pond. We have a wonderful and beautiful park and I would hate to see it further developed with sports fields, dog parks, disc golf course, etc.

Maybe get some local scout groups involved to plant some flowers or start a butterfly garden. Make separate walking and biking paths. Improve drainage around the pond so it's not so muddy. Add older kids playground area.

Trails with a map, tennis courts need improvement, teens use basketball court but there needs to be another section of fence so ball doesn't roll in street.

The basketball and tennis courts need an overhaul

Return of events like Halloween party, concerts, etc, add things like disc golf, spruce up things like the courts

I would love to see the tennis courts resurfaced and I'd like to see some additions to the park that maintain a more nature centered focused. Examples include disc golf and a dog park with limited accessories (just a semi-open fenced area would do)

Improved tennis courts, dog park, disc golf. I'd also love to see one HUGE trail that connects all parts of the park with well marked pedestrian crossing areas over Oakbourne Road (similar to how East Goshen and Applebrook park are connected over Paoli Pike).

Oakbourne Mansion is OK. But, I really don't get the obsession with it. The Mansion has dominated the needs of Oakbourne park since we moved there in 2000. The rest of the park has been neglected by the Park Commission to present because of spending on Oakbourne Mansion. There should be playgrounds, walking paths, better parking and some type of restrooms for the public. The baseball fields also need permanent restrooms.

Dangerous intersection at trail head at Oakbourne and S. Concord Roads makes walking or biking into park risky. Slow traffic there by making all way stop and add crosswalk for pedestrians.

Arrange guided tours with professionals through year — arborists, botanists, wildlife scientists, e.g. dusk owl walk, morning wildflower identification walk, history tour, story telling walk, gardening walk, evening star gazing/identification, etc.

The main circle driveway in front of the Mansion and historic water fountain should be become the main meeting areas of the park.

To help accentuate these areas, the driveway and fountain could both be lined with all-season flower beds/landscaping, outdoor benches, additional lighting, and LED bollards for safety at the driveway.

Create fenced dog park, where dogs can be off lease and people can walk or jog and get exercise at same time..these are very popular in Colorado and people are usually willing to pay for passes as a way to fund improvements

Create fenced dog park, where dogs can be off lease and people can walk or jog and get exercise at same time..these are very popular in Colorado and people are usually willing to pay for passes as a way to fund improvements

I would like to see a fenced in off leash area for dogs, possibly with walking paths for humans. I would be willing to pay/donate money to maintain this area

An off leash fenced in dog park.

Develop a well organized volunteer program so that people can assist with improvements to trails, events, garden and arboretum.

Outdoor activities for all ages. Especially children and seniors would be great.

Dont lose sight of the historical and simple nature of this park as compared to other recreational areas with more designated infrastructure.

Redo the Playground Area and make it larger. Add permanent Bathrooms. The basketball court needs to be fixed and upgraded. Increase the Gardening area.

All trails should be upgraded, This includes Copes side and Mansion side. Fix current basketball courts and tennis court. Add additional basketball courts.

Dog park!

Before any decisions are made about Oakbourne Park, the township needs to take a good look at Larchbourne Park (yes, there are 3 parks in our township) and either give it the attention it needs or sell it. It is a disgrace and no one seems to care. If I lived in that lovely neighborhood, I would certainly be making some noise about its current condition.

Bring the Mansion back to its "former glory". It is an incredible building and could benefit the township in so many more ways than it is.

A community center that offers township residents fitness classes, cooking classes, art classes, etc. Seasonal Farmers market, day camps for kids in the summer. Gardening classes. The mansion should be restored and rented as it is now for weddings and private events

We need a better and safe park, there is a lot of area to expand the playground.

Pickle all courts, tennis backboards and larger courts, trail improvements done professionally through the woods.

A lot of township money is spent on the Oakbourne mansion that nobody can use unless they pay. Turn the mansion and its care to private industry and let the township focus on the park surrounding the mansion.

Start a planting campaign for the community at the park; perhaps planting trees in the large open spaces.

The basketball court could use some love. Leave the unique stone wall!

Tai Che, yard exercises, wayside signage plan, trail map, improve south side bb, tennis, add to tennis courts and backboard, take the keys off the use of tennis courts, keep the larger area for picnicking, tables some benches chairs,

This town needs good walking trails, good sports fields (day/night, indoor/outdoor), snack bar to generate money and overall better facilities to make it a community gathering place and safe place for kids and families to use.

Usable tennis courts

Create a space for outdoor concerts example like Rose Tree Park maybe with fire pits, create a space for children for example a playground with a turf ground and a space that someone could rent out to generate income as well as hold classes for example a place like Haverford township community recreation & environmental center. That would be my wish list

Keep Oakbourne as a park. It should not be turned into a recreation center.

I use Thornbury Park it is a very nice simple place. I will try Oakbourne this week.

I don't use the park I go to Thornbury park. It is clean, simple and safe. The walking path is measured and simple to follow

More signage to learn about the gardens and trees. Additional maps for the trails and possibly some cameras for safety with

I already noted 3 moderate improvements, and would add a 4th — bocce courts and league.

trail markings and map with distances, trash cans by the pond

Dog park

I would like more gardens like a small long wood gardens. It would be great to add a pond/lake and hold an annual fishing derby for kids supported by PA Fish & Game, they would stock it.

Mark the trails, lived here for almost 9 years and had no idea where the trails were.

more yard sale events; special seasonal events; trail marking/maps

Walking trails expanded in woods and field across oakbourne road

Paved paths and connecting sports fields with the oakbourne mansion. Also, improvement on the facilities already there like the batting cages, etc.

I love the events like the holiday party, Westtown Day, family movie nights. Maybe concerts outdoors would be fun.

Sports court improvements

Buy more park area like Crebilly farm

Connect it with trails through the township

Programs on gardening, landscaping and fitness would be beneficial.

none

The park needs to be more family and dog friendly. Better trails, mile markers, fitness areas, better playground for kids, restrooms. Connect the lower and upper parks.

Mark the trails more clearly.

More clearly marked trails would be great

Keep on Keeping on!

Everything seems disconnected at Oakbourne. The mansion should be utilized more for programs for the community. The sports areas need to be improved visually with permanent restrooms.

Love the park and everything is nice.

Dedicated Pickle Ball courts, roller hockey rink, morning or early evening yoga/pilates classes in a pavilion (when the weather is nice), dedicated mountain bike trails

I think the mansion and surrounding area should be made available for family and community events including weddings etc

Add a large dog park, separate areas for large and small dogs. Water and shade available, places for dog owners to sit.

Develop Self-Guided Tours of the Mansion and property around the Mansion. Stress the history and independence of the property. What was grown, how many people summered there, etc. Even forward to when it was a Senior Residence for Ladies.

I'd love the wooded trails to be overhauled. They're a little too "natural" and a muddy mess

Better/new trails. It would also be nice to have new gravel in the sports parking lot. It's a bit bumpy.

Add a loop walking path.

Walking path extended into the wooded area (assuming that it township property).

Improve the pond area and consider restoring a second pond area to the east of the existing pond. Add a walkway from the mansion front steps across the driveway and lawn circle in front of the mansion to the Clock Garden. Add more gardens around the mansion and water tower areas.

Change the nature of the playground to have more interesting and natural features, expand the playground area, more benches for parents and grandparents.

What are walking trails like? How long are they? How do they compare with Sandy Hollow. I've been to Oakbourne once or twice and the trail did not look appealing.

How much money is the township spending on the mansion? Is it breaking even with rental fees? I would rather the money be used for open space funding. Like Crebilly!

Send a digital map of the park and it's facilities, especially walking/fitness trails.

Added or updated playground or sensory play for young kids (toddler age). Paved pathways throughout the entire park for better accessibility with stroller.

Add drive in movies during pandemic to keep distance

Added or updated playground or sensory play for young kids (toddler age).

Paved pathways throughout the entire park for better accessibility with stroller.

Add drive in movies during pandemic to keep distance.

Add cross walk across concord road for those walking over to the park. add flashing lights (cars fly down the road and it's unsafe to cross) similar to what East Goshen Park has on Paoli pike.

Would like to see it be a community center, offering programs for everyone. Fitness classes, tennis lessons etc. Safety stations along trails, outdoor lighting. A dog park area would be wonderful for meeting folks. Walking programs would be nice. A grand idea is having a community aquatic center, a lot of money up front but memberships as Westtown residents would make up for it over time. Food events at the park with Friday night food trucks, or more outdoor concerts.

Facility improvements: other—playground improvement. Nothing major, but maybe some more structures for climbing.

Love the trails..my 3 year old can spend an hour running around in them throughout the whole park! Maybe improve the playground a bit...add a tunnel slide, those are always big hits! Not sure how expensive this is, but rubberizing the playground would be nice vs the wood chips.

Checkout East Goshen Park, Concord Township Park, Thornberry Park, and West Goshen Park for potential improvements at our Oakbourne Park

Wider paved walkways and safe nature trails, family play areas for 5-12 year children, clean rest room facilities, indoor group activities like Bridge, Senior Club, Wine tasting, etc.

fenced area for dog park with dogs off-leash allowed would be heavily used!

and maybe disk golf?

More trails, more trashcans, remove broken glass on trail. Some security measures, I was followed once when i was there by myself. More benches along the paved trail.

More benches and trash cans throughout, remove glass from trails, add security.

Post pandemic concerns and protocols, provide low cost classes - to include history, book clubs, arts discussions, etc. Target adults and seniors.

I don't have any ideas, but I don't think you need to do any major work there. Its always busy so -people are enjoying it as is. Bathrooms would be nice. But I would be afraid of people hanging out in there or drawing bigger crowds.

AEDs! People use this park for recreation and several sports. Kerr park in Downingtown has an AED that's easily accessible. There should be one on the field side and one on the pavilion side.

More community events - car shows, cook-offs, holiday fairs, etc.

Community pool. Spraypad/water play area for kids. Surfaced trails. Children's events in mansion (book readings, character appearances, cookie/cupcake decorating). Christmas tree lighting. Menorah lighting. Ski slope? Lazy river?

Keep the park a park. Do not add more athletic fields. We need open free space.

Maintain the beauty and historic significance of the Mansion and surrounding property. Restore the water tower to the level where people can go inside and experience the historic gem.

I would love it if the trails could be connected in a better way. The "Yellow Trail" is not the easiest to get to, although we love taking walks on that trail as well.

I'd love an off leash dog park

An off leash dog park

maintain walking trails within forested area and cornfield

Longer hours for yard sale days.

More entertainment/music for Westtown Days.

Bring back the music in the park like Beatles tribute band concerts outside.

More of 'cars of Great Britain' type activities.

Fall & Christmas activities.

More benches in the pond area, an outhouse or two there.

If you are doing anything to the cornfield across the street, I would just like it to be a walking trail and not a sportsfield

Trails need to be cut and filled with the ability to walk on better. Many trail markers are hidden and access to the neighborhood is limited.

I actually love the low key vibe at Oakbourne. It's very peaceful and great for dog walkers and hikers.

More benches. Maybe some placards about the history of the property on and around the trails. An Oakbourne run of sorts. A food truck evening, including a beer truck, to bring in the younger families and couples who moved in from the city.

Would love the opportunity to see music there... Outdoors. Would love the basketball area fixed. Would love the tennis area open and avialable

I really like the pond, Can you fish there? Maybe a deck/dock would be nice,

Additional walking paths with mile indicators (ie. a 3 mile loop)

Sometimes the newsletters/mailings are late and we learn about things after the time has passed. I like the digital sign at Oakbourne and it serves as a reminder to me to check out the Township's website for upcoming events. I think all information should be on the website for consistency, not some things on the website and some things on Facebook.

I don't know if you do this

Have a picnic there for the township staff and families

Also hold a township meeting there

I would not do anything. Preserve your budget due to economic uncertainties with COVID.

We visit the park because of the arboretum and feel of the pathways. We hope no major changes are made as that would change the feel of the environment.

paved parking area

Eliminate some invasive plant species and replace with native plants. Preserve Open space

Indoor community swimming pool

Improve the trail network and add a couple maps to educate visitors what is available. I feel the section across Concord road is under utilized space.

I think an annual 5k run is something that would be a great addition to the event line-up. I regularly trail run through the park and think there is ample amount of trail. We love the family oriented activities like the outdoor movies. And my kids will be playing sports soon, so those facilities would be great to maintain & improve. I also think the farm land across Concord Road should be purchased and used for park purposes.

Mark and map trails better!!

I just found the trails across the street. I've lived here for 35 years and I never knew they existed! It's absolutely beautiful. I'd love to see the trails better mapped and maintained for walkers/runners. The trails don't seem to connect.

I am interested in helping educate Westtown residents about

- 1.) the advantages of composting at home
- 2.) introducing concepts such as prairie garden designs which reduce mowable lawn acreage
- 3.) using native plants instead of exotic species in home gardens

More events scheduled would be nice.

Preserve trails and wooded areas. Keep natural

Keep trails and wooded areas natural and accessible

More trails in the lower section. Maybe a mountain biking loop.

See East Goshen Park

The Mansion can improve the back room used for events. We looked at having our daughters bridal shower at the mansion and would have loved to have done so. The back room is dated and had a smell to it. The front old rooms are beautiful but can't hold many people. You would be able to attract more people to hold events there and thus have more revenue if you just make some improvements to the Mansion.

We need to completely redo the two tennis courts that are there they were put in over 20 years ago thanks to Arnold Cleveland who requested for the time. It is time not only to completely resurface the 2 courts that are there however we need to add two additional courts. There are plenty of soccer fields. It would also be who've us to put in a nicer playground for children and Improve the basketball court

Would like to see more trails

Improve trails but do not pave

The mansion does not seem to be open to the public. I would prefer it to be accessible instead of only used for special events or when people rent it.

Again, I would like the wooded area paths to have more wood chips added. This hasn't been done for a while and would Ben helpful for running/walking.

More programs in the mansion

Keep the historic nature of the park. Don't over develop, at least around the mansion. I thought the movie night was a neat idea.

Vendor events at the Mansion, Borough restaurants invited to showcase their specialties inside the mansion, Food truck events at the park, Concerts at the mansion and on the grounds

Expand the existing playground

Better accessibility and use of the Cope Tract.

Lose the electronic billboard. It's trashy and was a dated concept before it even went in.

structured dog park, subdivided for small and larger dogs respectively. With water source, doggie bags and waste cans. And in the open part of the park, dogs should be required to be leashed at all times. The fenced part of the dog park, as above, can be for free running.

More Pathways and a crosswalk across South Concord Road

Additional marked pathways

Making the interior more attractive by cleaning it up would attract more paying functions in the mansion, which can pay for upkeep of the park. It would be wonderful to see the park's trails improved and the park brought back to how the Smith family designed it.

Given the financial position and needs of the township I don't feel the township is being fiscally responsible. No more \$\$ for building improvements. Does not generate meaningful revenue if any at all. Spend on bringing township owned drainage basins up to code consistent with privately owned basins. No more waste on Oakbourn!!!!. .

Upgrade basketball courts; add pickle ball, dog park, improved walking/running/biking trails. Inside yoga classes, etc. swimmo for township residents

Keep as is. Stop destroying the majestic views and open spaces.

Please do not develop the cornfield side of the park! Maintain the open historic feel of the park. Open spaces in the township must be kept and preserved.

I use the park daily on the cornfield side. It's a great place to enjoy nature and wildlife

Especially at this time we need a place for calmness. I live on James Drive and my property is adjacent to the park. This side of the park gets a lot more use, especially now, by families and kids playing and enjoying all the simplicities that nature brings. Why at this time would you want to take this away from our township.

As a very close neighbor to the park, I believe that developing it with the current plan is a big disservice to the community. The increase in traffic alone will make this very bothersome to the existing township residents who live NEAR the park. There will also be additional foot traffic coming into our street on Windy Knoll to access the proposed fields.

I feel that Oakbourn Park is a great place for families and recreation. I believe that any improvements should take place within the boundaries already set for the park. As a resident who resides near where potential improvements may be added, I would be extremely unhappy with such significant changes to my neighborhood - a reason we bought where we did; to raise our family in a private, quiet neighborhood on Windy Knoll Rd.

Utilize the space to it's potential. It's a well-loved park and visited by many. It is peaceful and full of nature. It provides sporting opportunities for all ages. We don't need to take more beautiful space in Westtown for parking lots. We live very close to the park and we are extremely close to the new building and expansion proposal. The neighbors who will be affected by such expansions are not happy to have what is currently a quiet place to raise our children turn into a public area!

I enjoy walking with my children on the paths across the main park area (where the field is). I noted safety as a concern.

1. Walking across the road with children as people speed can be concerning. A formal walkway should be offered.
2. Roundup is sprayed on park property. This is a carcinogen that has resulted in several lawsuits. This should not be used in public places, especially without signs or warning.
3. The park is not safe for those with accessibility needs. They are forced elsewhere.

The park property should no longer be farmed. That is public property and with the community growing rapidly the need for recreation is going up. I would like to see that area turned into a natural meadow with walking trails and points of interest.

A business plan needs to be established for the Mansion. It is unique and can be used in ways that benefit the public and generate revenue. That said, professionals should be managing it. It is crumbling.

Open up more of the mansion and offer more regular tours focusing on the history of the mansion and the grounds.

Have information readily available about the programs that are there. The only way I know is when I drive by and see the sign. Information about the vegetable garden in the summer, other programs etc. Signs on native plants. Programs to encourage planting native plants for attracting bees, butterflies and birds. Organic gardening. Seasonal Nature walks to learn about the gardens there.

Single track, one way, trail for mountain biking and / or dirt biking, waiver to be signed and on the record with the township

I would love to see a sort bike loop in wooded area below the parking lot

More tennis courts

Add solar lighting features

Water fountains

Expand community garden

Create a nature walk that highlights plant and animal life

Music in the park from May-October would be cool. Maybe virtual tours of the Mansion to generate interest in physical tours as well.

Highlight a social calendar in the Westtown Gazette and at the Amish Market

Leave the cornfields ALONE!! Don't need more car traffic and frisbee golf. Preserve open space!!!!

I'd prefer Oakbourn Park be passive; current active sports level is OK.

Community movie nights, craft fair, holiday fireworks

seems a lot of people walk to the park and we enter thru the path entrance down at the S. Concord / Oakbourne trail. There is not a paved path to get up to the park and walk. Even a nice paved path thru the wooded area would be nice for bikers or walkers. Seems like the wooded area could be more improved on.

Frisbee golf

Expand the walking area across the street

I would improve Oakbourne Mansion. Specifically the back room that can be used for banquets/events. If you do that you can get revenue from people renting it for bridal and baby showers, birthday parties, weddings, etc. I would also do a thorough cleaning of the front rooms of the mansion. Neither of these would require much money and would bring in money to the township.

Leave the cornfield alone. We need to preserve the current park.

Just fix the stuff that is there. No additions. Oakbourne doesn't need to attract thousands of people from the area. Only the local residents

How about you guys fix the crappy road that runs parallel to Oakbourne park that has been absolute crap for 10-15 years. How about start with that before you think about your other terrible ideas on how to waste taxpayer money on unnecessary things. Keep oakbourne park as it is, maybe add a permanent bathroom and fix up the tennis/b-ball courts. And spend your time fixing things that ACTUALLY need to be fixed (oakbourne road)

Flower gardens like a very miniature Longwood or Chanticleer.

Some more evening events w lights

Christmas lights

stony parking area paved

more use of the mansion for the general public

Still never got to go up the water tower!

trees and flowers labeled (the wisteria was beautiful)

wildflower ramble

the pond could be a gem to sit and reflect if cleaned up

a better train leading towards the Oakbourne Rd bridge where my neighbors and I walk from

Thank you!

I'd like to see more available to adults and seniors instead of just a movie night for kids or kid sports. Tai chi in the park? Adult crafting or edu. Socials combined with volunteering to help with the park. Festivals and events. We just don't get all of the use and enjoyment out of the park that we could.

I think the historical area of the park should not be overdeveloped and too active with sports and activities. It's a nice quiet place to go walk currently and I wouldn't want that to change

I am for minor improvements at the existing park but want to see the cornfields on the east side of the park to remain open space

Updated pavilion

Paved trails are important.

1) I would like to see more children's programs, especially for the pre-school (ages 0-4) age group. I'm thinking live music, sing alongs, story times, nature activities, etc. We have such a great park and facilities but it feels underutilized during the weekday daytimes. I would even pay a small fee for such programs.

2) Remove the digital message board! It goes against maintaining the rural feel of our township, is not environmentally conscious (electricity usage), & provides no added value.

Pond improvement

No new development!! Leave open space alone!

Leave as is and instead use funding for installing public sewer for residents that have been suggested numerous other times in the past.

Music in the park. Having music groups or just playing different types of music would bring more of the community to the park and they could see the opportunities that are available for nature lovers, children, and anyone who loves to be outside.

Can you please put a garbage can in the mansion parking lot next to the dog waste bag station? The tennis courts need work. More walking trails if possible.

Consider a regularly occurring farm market or quarterly food event where community members can stop by for shopping

Please just restore the buildings and landscaping to the original architect's and landscaper's design and replace the portable toilets with real restrooms with running water, plumbing fixtures, and waste management.

climbing apparatus, informational/historical signs about the park, trail markings, fitness pull up bars and/or workout area,

There is an arboretum? Where?

Would like to see better walking path surfaces and better defined paths

I like the car shows at the park but they're not well advertised by Township. Art and Craft Show. Connect to (not yet existing) bike paths. Music within a needed Band Stage—Oakborne has natural slope that could be used for a natural amphitheater.

Marian the trails

Instead of making every park stellar, I'd prefer sidewalks all over Westtown and West Chester connecting different parks. We are so fortunate to have so many small parks in the area. As an aging adult, I'd like to walk everywhere.

Did so in earlier question. Thank you for asking.

Marked Trails

For my purposes I enjoy the park the way it is. However, I realize others may want enhancements. I know there's plans to expand across S. Concord Rd. but I don't know if that's a good idea. I enjoy the corn coming up in season and I think there's enough real estate to work with at its current location. Furthermore, the up front and ongoing costs certainly won't reduce our tax burden.

Walking and running trails

Volleyball. Mini golf. Fountains. Food vendors for special events.

Outdoor gym equipment - pull-up bars, dip bars, step-ups.

Volleyball nets

Badminton nets

Horseshoe pit

Keep it open and natural as possible. Plantings, etc. No need for "development". There are lots of 'developed' parks in neighboring communities that we can use if needed.

I would love a softball field added.

APPENDIX D: APPLYING SUSTAINABILITY

Introduction

Sustainability and green design considerations have become increasingly important and applying these values to park design has become a standard. As defined by Creating Sustainable Community Parks: A Guide to Improving Quality of Life by Protecting Natural Resources, a sustainable community park is one where natural resources are protected, wildlife habitats are improved and human recreational uses and maintenance practices do not conflict with, but rather enhance, the surrounding environment. The Guidelines and Performance Benchmarks for Sustainable Sites Initiative, further defines sustainability as land practices “that meet the needs of the present without compromising the ability of future generations to meet their own needs.” The green initiative allows for the park to become and maintain self- sufficiency, while reducing the amount of time and cost that must be required to maintain certain areas in both the long and short- terms.

A sustainable park produces the following benefits to a community: economic benefits by attracting users to the park and the surrounding areas where the park resides; **environmental benefits by reducing impacts to the environment and providing a safe area for wildlife; and health and safety benefits by giving the community an educational environment, allowing for active activities, and reducing crime, creating stronger/safer neighborhoods surrounding the park.**

Do No Harm

Make no changes to the site that will degrade the surrounding environment. Promote projects on sites where previous disturbance or development presents an opportunity to regenerate ecosystem services through sustainable design.

Precautionary Principle

Be cautious in making decisions that could create risk to human and environmental health. Some actions can cause irreversible damage. Examine a full range of alternatives including no action and be open to contributions from all affected parties.

Design with Nature and Culture

Create and implement designs that are responsive to economic, environmental, and cultural conditions with respect to the local, regional, and global context.

Use a Decision-Making Hierarchy of Preservation, Conservation and Regeneration

Maximize and mimic the benefits of ecosystem services by preserving existing environmental features, conserving resources in a sustainable manner, and regenerating lost or damaged ecosystem services.

Provide Regenerative Systems as Intergenerational Equity

Provide future generations with a sustainable environment supported by regenerative systems and endowed with regenerative resources.

Support a Living Process

Continuously re-evaluate assumptions and values and adapt to demographic and environmental change.

Use a Systems Thinking Approach

Understand and value the relationships in an ecosystem and use an approach that reflects and sustains ecosystem services; re-establish the integral and essential relationship between natural processes and human activity.

Use a Collaborative and Ethical Approach

Encourage direct and open communication among colleagues, clients, manufacturers, and users to link long-term sustainability with ethical responsibility.

Maintain Integrity in Leadership and Research

Implement transparent and participatory leadership, develop research with technical rigor and communicate new findings in a clear, consistent, and timely manner.

Green Design

The redevelopment of the park provides an opportunity to incorporate green design techniques. Integration of green design principals and techniques for future construction/ improvements is encouraged to minimize the impact of park development on the natural resources. Please see Appendix E for guidelines for incorporating green infrastructure in parks.

Foster Environmental Stewardship

In all aspects of land development and management, foster an ethic of environmental stewardship - an understanding that responsible management of healthy ecosystems improves the quality of life for present and future generations.

Taken from *"The Sustainable Sites Initiative, Guidelines and Performance Benchmarks"* American Society of Landscape Architects.

Best Management Practices

Development of the park as conceived in this master plan will involve earthwork and construction activities. Best Management Practices (BMPs) are encouraged throughout the construction process to protect the resources and stabilize them through creative design. Best Management Practices will promote a stable future for the site. Detailed Examples of Best Management Practices can be found in Pennsylvania Stormwater Best Management Practices Manual. Some basic examples are listed below for informational purposes and should be considered where applicable in the redevelopment of the park. Incorporation of these facilities will require site specific soils testing to determine infiltration rates and plan for incorporation of applicable BMPs.

Green Design Considerations

Consideration	Intent	Application
Erosion and sedimentation control	Reduce negative impact on air and water quality	Provide erosion control measures and best management practices (BMPs) during new construction activities. Eliminate impact to steep slope areas.
Reduce site disturbance	Limit development to appropriate sites to reduce the impact on the landscape and habitat.	Construct improvements within existing clearings or developed areas.

Consideration	Intent	Application
Stormwater management	Limit disruption and pollution of natural water courses, reduce increased runoff and promote infiltration.	Minimize crossings at water courses. Where crossings are necessary, provide measures for efficient passage of water. Utilize porous pavement to promote infiltration of stormwater runoff. Size parking areas to meet parking need and provide turf overflow parking for high use occurrences and special events.
Reduce heat islands	Minimize impact of microclimate.	Provide plantings in the large, expansive parking areas to break up the hard surface and promote infiltration. Dawn to dusk policy where appropriate.
Reduce light pollution	Improve night sky visibility and reduce impact on nocturnal environments.	Limit lighting within the park. Where night lighting is necessary for safety and security, provide shields or specify full cut-off fixtures and only specify the necessary lumens.
Innovative wastewater treatment	Reduce the generation of wastewater and potable water demand	Provide self-mulching or other environmentally friendly treatment alternatives.
Recycled building materials	Limit the use of consumptive building materials	Utilize recycled plastic and building materials in new construction.
Local materials and suppliers	Support the local economy and reduce the environmental impact resulting from transportation	Purchase products locally produced.
Maximize solar orientation	Reduce electric needs through proper building orientation.	Orient buildings to take advantage of natural light and heat.
Energy consumption	Minimize use of fossil fuels.	Install a ground source geothermal heat pump system for heating and cooling of buildings. Plant deciduous trees to cool buildings in the summer and allow solar access in winter. Layout and orient buildings and outdoor use areas to take advantage of cooling summer breezes. Connect park sites to regional trail systems so that non-motorized transportation modes can be used to access the site. Install solar powered amenities/features.
Promote water conservation	Reduce water use to lower burden on supply.	Select native and drought tolerant plants to reduce watering and maintenance demands. Mulch landscape areas to retain moisture and minimize the need to water plants.

Consideration	Intent	Application
Emphasize and promote recycling	Reduce the amount of new materials required and lower the demand for new materials to be produced.	Reuse existing buildings, materials, and infrastructure. Build with salvaged materials whenever available.
Participate in LEED system.	Employ the Leadership in Energy and Environmental Design (LEED) Green Building Rating System on site as the national standard for Green Design.	Use the LEED project checklist for all aspects of design from erosion & sedimentation control to green power and materials.
Constructed treatment wetlands	Remove a wide variety of pollutants such as suspended solids, nutrients, and organic pollutants.	Shallow water-filled basins planted with emergent plant vegetation. Place at stream/drainage-way outfall to water bodies.
Critical area planting	Stabilize slope, improve wildlife habitat, slow stormwater run-off.	Areas of erodible soils and/or steep slope and at the edge of the stream and perimeter of pond.
Filter strip	To trap sediment and convey run-off from paved surfaces to stormwater channels and reduce run-off velocity.	Adjacent to impervious surfaces and on gentle slopes with sheet flow. Adjacent to springs, streams, and ponds to filter sediment.
Grass swales	Run-off conveyance, pollution, and sediment filtering device and increased ground water infiltration.	Where natural drainage ways can be incorporated into the stormwater design in lieu of piped conveyance.
Level spreader	To reduce the erosion effects of concentrated run-off and promote infiltration.	Adjacent to paved surfaces and at pipe and channel discharge points.
Stream bank stabilization	Protect critical sections of a stream bank where standard vegetative practices are not feasible or offer insufficient protection.	Banks of springs, streams or swales that need to be stabilized due to unstable soil and steep banks.
Minimize site clearing	Minimize disruption to the site's natural systems and preserve the natural stabilizing and filtering vegetation of the site.	Where development is proposed.

DCNR Green Principles

Bureau of Recreation and Conservation Green Principles for Park Development and Sustainability

Principle #1: Maintain and Enhance Trees and Natural Landscaping

Natural landscapes provide vital undisturbed habitat for plant and animal species, some of which may be threatened or endangered. Projects of all types can preserve and enhance these habitats by incorporating natural landscaping which is the use of an aesthetic variety of primarily native plantings well adapted to the local climate and soil. Natural landscapes can provide a cost-effective alternative to conventional turf lawns. Preserving existing natural vegetation including valuable natural areas such as wetlands, grasslands, and woodlands is a fundamental purpose of natural landscaping.² Designing with a variety of native trees, shrubs, grasses, and wildflowers can help eliminate large areas of unnecessary turf lawn. Minimizing the amount of turf lawn while maximizing the natural landscape increases water infiltration rates, reduces the maintenance requirement of expensive lawn equipment, reduces noise and emission pollution, minimizes the use of pesticides and fertilizers, and requires little to no watering. While not maintenance free, a well-established natural landscape requires less money for ongoing maintenance than conventional landscapes. The following are some concepts to think about when designing natural landscapes:

Why Plant Native Vegetation?

Pennsylvania's native plants are those that were growing naturally in Pennsylvania prior to Europeans arriving. Pennsylvania has over 3,081 species of native trees, shrubs, flowers, and other forms of plants. Landscaping with native plants has several appealing factors.

Native plants are:⁴

- Adapted to Pennsylvania's soils and climate thus reducing the need for supplementary watering and other horticultural amendments.
- Native plants are an integral part of the larger biological community involving beneficial and pollinating insects, wildlife and ultimately, all of us.
- Offer food and shelter for many species all year long and are the foundation for a healthy, diverse habitat.
- Require less care and watering when established.
- Thrive with less fertilizer. (Most native plants will not need fertilizer once they are established. When fertilizers are used, they should be of the organic or "slow-release" varieties, should be used no more than once or twice a year, and should be used in as small a quantity as possible.¹)
- Provide carefree beauty that enhance any garden or landscape and create a special sense of place.
- Native plants growing in their home environment are naturally more resistant to diseases, pests, or physiological disorders.
- When planted along waterways, native plants protect ponds and streams by filtering pollutants and preventing erosion.

Maintenance over a 20-year span for a non- native turf grass landscape can cost almost seven times more than the cumulative costs of maintenance for a native prairie or wetland.

~U.S. EPA, 2007

Grass Maintenance:

Cool season turf grass, a staple of traditional parks, should be limited to human-use areas such as ball fields and picnic groves. Native cool season grasses, such as Canada and Virginia wildrye, should be used in place of non-native cool season grasses like Kentucky bluegrass and tall fescue. Warm season grasses can be used to establish a meadow to provide wildlife habitat or used as attractive landscaping. Native warm season grasses include big bluestem, little bluestem, and switchgrass.¹

- Even if you keep some area in lawn, much can be done to lessen environmental impacts:³
- Reduce or eliminate the need for pesticides by practicing Integrated Pest Management. Use a mulching mower so that clippings can remain on the lawn and provide nutrients as they decompose.
- Where the lawn is small, use a non-powered reel mower. (Modern models of the reel mower are much easier to use than the older models.)
- Keep gas-powered mowers in efficient operating condition (well-tuned, sharp blades) and raise the cutting height to 3-3.5" during the hot summer months to keep the grass roots shaded and cooler, reducing weed growth, browning, and need for watering.
- If you don't use a mulching mower, compost excess grass clippings in your yard and later use it as a soil amendment around trees and shrubs.
- Learn to tolerate some weeds or a greater variety of plants in the lawn.
- Don't over-fertilize. A slow-release organic fertilizer applied once, in the fall, is usually sufficient.

Enhancing and protecting meadows that contain native grasses and wildflowers is a great way to attract wildlife and save on lawn maintenance equipment costs. Common meadow wildflowers include Black-eyed Susan, sunflower, aster, and goldenrod. Warm season grasses are prime habitat for grassland and ground-nesting birds; birds such as bobolink, Eastern meadowlark, and grasshopper sparrow require at least 25 acres of grassland for survival. However, other birds, such as goldfinch, field sparrow, Eastern bluebird, Eastern phoebe, and Eastern kingbird, do occupy smaller grasslands.⁷

Protect Existing Features:

Mature trees enhance air quality and reduce pollution, enhance water quality, and reduce erosion, and can reduce energy costs when properly planted around a building. When appropriate, design the site to protect existing trees. During excavation of the project site be sure the trees' root zones are protected. Therefore, it is recommended that any excavation occur outside the perimeter of the tree canopy.⁵

Topsoil is the most fertile portion of soil and the most valuable. "It requires 500 years under natural conditions to produce an inch of topsoil."⁶ The natural fertility of topsoil promotes healthier grass and reduces the amount of fertilizer required to establish landscape plantings. Therefore, one of the most important steps during construction and planting projects is to retain as much existing topsoil as possible. The best option is to stockpile and reuse the topsoil instead of removing it from the site. Using the existing topsoil not only saves money, but also minimizes disturbance

that could encourage the growth of invasive plants.

Local and regional greenways are excellent and appropriate locations for natural landscaping. Many greenways contain rivers, streams, or other waterways.² In these locations, a variety of native trees, shrubs, grasses, and wildflowers planted in buffers adjacent to the stream provide wildlife habitat, bank stabilization, filter pollutant and sediment runoff, and create a healthy stream ecosystem for fish and stream invertebrates. To provide the maximum benefits, a buffer should be 100 feet or more on each side of the stream, although smaller buffers are better than nothing and will still provide some benefits.

Floodplains provide many important services and should be protected from development. Floodplains reduce flood velocities and flood peaks, reduce erosion potential and impacts, provide a broad area for streams to spread out and for temporary storage of floodwater, reduce sediment loads, filter nutrients, process organic and chemical wastes, and moderate water temperature.

Maintaining native vegetation in floodplains helps absorb and slow flood waters reducing the impact a flood may have on downstream communities.⁸

Undisturbed soil and vegetation provide important stormwater functions including water infiltration; nutrient, sediment, and pollutant adsorption; sediment and pollutant biofiltration; water storage and transmission; and pollutant decomposition. These functions are largely lost when development strips away native soil and vegetation and replaces it with minimal topsoil and sod.¹¹

Plant Trees:

Maintaining and planting trees have many benefits. Trees reduce CO₂ levels and increase oxygen, play an important role in stormwater management by reducing erosion and sediment runoff, improve water quality, help cool our planet by providing the service of carbon sequestration which happens when trees store carbon in their roots and trunks keeping it from entering the atmosphere, save energy when properly planted around a building, increase property values, and studies have shown that trees can significantly reduce stress levels and accelerate healing time.

Pennsylvania, through the Department of Conservation and Natural Resources (DCNR) the Bureau of Recreation and Conservation and the Bureau of Forestry has developed a Public Private Partnership, through regional collaboration, to address the loss of tree cover in Pennsylvania. This program, called TreeVitalize, has established goals to plant one million shade trees, restore forests along streams and water protection areas, build capacity for long term urban forest management, establish strong urban forestry partnerships in all 14 metro areas in Pennsylvania, and train 10,000 citizens to plant and care for trees, over a five-year period. To learn more about TreeVitalize and to find out how you can get involved visit: [http:// www.treevitalize.net/](http://www.treevitalize.net/).

Compost:

Leaves, grass clippings and other yard debris clog landfills, taking up 20-40% of landfill space. This so-called waste is actually a valuable natural resource that once decomposed, offers a nutrient rich organic matter that can be a source of mulch or can be added to soil as a natural fertilizer. Compost can also help soil retain some of its moisture content. Compost can be made on-site, or can be brought in from a municipal composting facility.³ To learn more about composting visit: <http://www.howtocompost.org/>.

Invasive Plant Removal:

An invasive non-native plant is one that is not natural to the ecosystem under consideration, and when introduced cause or are likely to cause harm to the economy, to the environment, or to human health. Invasive plants can be trees, shrubs, vines, grasses, or flowers, and they can reproduce rapidly by roots, seeds, shoots, or all three.

Why Are Invasive Plants So Detrimental?

Natural predators and diseases can't compete when non-native plants are introduced. Most invasive plants are introduced from other continents, leaving behind in their native homeland natural controls like pests, diseases, and predators, which serve to keep these species in check. Due to this absence of natural controls, invasive plants reproduce rapidly and can form stands that exclude nearly all other plants. In the process, they damage natural areas, altering ecosystem processes and displacing desirable native plant species.

Plants like kudzu, purple loosestrife, and garlic mustard are displacing native plants and degrading habitat for native insects, birds, and animals.

Invasive plants endanger some rare and threatened native species of plants and animals, which are especially vulnerable because they occur in such small populations.

Invasive non-native plants often do not provide as much food and other habitat value as native plants do.

Invasive plants, even when grown in a cultivated yard, can spread, escape, and cause landscape maintenance weeding problems for years to come.

Some invasive plants release toxic chemicals that kill other plants.

Land managers who are faced with the daunting task of managing or controlling invasive species on natural lands rely on resources like the "Invasive Exotic Plant (IEP) Management Tutorial for Natural Lands Managers" in order to implement effective management, control and education programs: <http://www.dcnr.state.pa.us/forestry/invasivetutorial/index.htm>. This tutorial provides a "one-stop-shop" for natural resource managers who are interested in organizing on-the-ground efforts to prevent, manage and control IEPs.⁹

References:

¹ DCNR. Creating Sustainable Community Parks. A Guide to Improving Quality of Life by Protecting Natural Resources. <http://www.dcnr.state.pa.us/brc/publications/>

² U.S. Environmental Protection Agency. A Source Book on Natural Landscaping for Public Officials. <http://www.epa.gov/greenacres/toolkit/chap1.html#PURPOSE>

³ U.S. Environmental Protection Agency. Mid-Atlantic Region Green Landscaping. <http://www.epa.gov/reg3esd1/garden/what.htm>

⁴ National Wildlife Federation. Native Plants. American Beauties- Why Use Native Plants? <http://www.abnativeplants.com/index.cfm/fuseaction/home.why/index.htm>

⁵ Santa Monica Green Building Program. Inventory, Mark and Protect Topsoil, Trees and Vegetation to be Retained. <http://greenbuildings.santa-monica.org/construction/topsoiltree.html>

⁶ Franklin Soil and Water Conservation District Natural Resource Conservation Service and the U.S. Department of Agriculture, Natural Resource Conservation Service. Importance of Topsoil. http://www.druby.net/joomla/images/pdf_docs/topsoil.pdf

⁷ Natural Lands Trust. Meadows in Southeastern Pennsylvania. http://www.natlands.org/uploads/document_28200794705.pdf

⁸ Ohio Department of Natural Resources. Division of Water Fact Sheet. Natural Benefits of Floodplains. <http://www.dnr.state.oh.us/Portals/7/pubs/pdfs/fctsht50.pdf>

⁹ Department of Conservation and Natural Resources (DCNR) Invasive Exotic Plant Tutorial for Natural Lands Managers. <http://www.dcnr.state.pa.us/forestry/invasivetutorial/index.htm>

¹⁰ Maryland Department of Natural Resources- Forestry. The Benefits of Urban Trees. Urban and Community Forestry: Improving Our Quality of Life.

<http://www.dnr.state.md.us/Forests/Publications/urban.html>

¹¹ Building Soil. Guidelines and Resources for Implementing Soil Quality and Depth BMP T5.13 2009 Edition.

http://www.soilsforsalmon.org/pdf/Soil_BMP_Manual.pdf

Additional Resources:

Arbor Day Foundation. The Value of Trees to a Community.

<http://www.arborday.org/trees/benefits.cfm>

Earnst Seed Company. http://www.ernstseed.com/seed_mixes.aspx

National Wildlife Federation. Create a Certified Wildlife Habitat.

<http://www.nwf.org/backyard/>

The University of Tennessee. A Landowner's Guide to Native Warm-Season Grasses in the Mid-South.

<http://www.utextension.utk.edu/publications/pbfiles/PB1746.pdf>

U.S. Environmental Protection Agency. GreenScapes Alliance.

<http://www.epa.gov/greenscapes/> <http://www.epa.gov/reg3esd1/garden/>

Pennsylvania's Composting Home Page. Department of Environmental Protection.

<http://www.depweb.state.pa.us/landrecwaste/cwp/view.asp?a=1338&q=469423>

Pennsylvania Department of Conservation and Natural Resources. Landscaping with Native Plants in Pennsylvania.

<http://www.dcnr.state.pa.us/forestry/wildplant/native.aspx>

iConserve Pennsylvania. Plant Natives.

<http://www.iconservepa.org/plantnatives.html>

The Natural Lawn & Garden: Growing Healthy Soils.

http://www.seattle.gov/UTIL/stellent/groups/public/@spu/@csb/documents/webcontent/growinghe_200311261701557.pdf

Bureau of Recreation and Conservation Green Principles for Park Development and Sustainability

Principle #2: Connect People to Nature

When designing a site for public use (whether a park, trail, greenway, playground, or community pool) there is a concept called "human well-being" that is addressed in the National "Sustainable Sites Initiative Standards and Guidelines Report"¹ and should be considered during development of the site plan. Listed below are several ideas taken directly from the Report.¹ The Department of Conservation and Natural Resources (DCNR) iConserve program also provides for the connection of human well-being to outdoor recreation, conservation, and stewardship. Learn more about iConservePA at: <http://iconservepa.org/>.

Provide Opportunities for Interaction with Nature

Provide a diverse landscape to support a broad range of users and activities; including spaces for physical activity, nature/discovery trails, access paths to streams, way-finding features, and “cues to care,” which are design devices (such as mowed edges or low fences) that communicate that a naturalistic landscape welcomes users.

Design Spaces that Address Children's Needs

Provide pedestrian-only areas so children and youth can play without concern for traffic. Provide parks and open spaces that serve several residential areas, which give children a sense of place and belonging. Provide interesting landscape places (designed and naturalistic) that enable exploratory play. For example, boulders for climbing, streams for discovery, open meadows with trails, sensory gardens (where children can touch, smell, and even taste plants), and large trees and other natural features for hide-and-seek and unstructured games.

Provide Opportunities for Passive Experiences with Nature

Maintain all possible trees on-site. Optimize water views or provide fountains. Place and configure plantings that achieve other ecosystem services (such as rain gardens for infiltration and stormwater management) to provide visual amenities. Establish nature trails, and wildlife viewing areas.

Educate Site Users

Create demonstration gardens that allow visitors to observe biodiversity and learn how they can establish the same type of garden at their home. Protect wetlands and other natural areas and provide interpretive materials to education about the benefits provided by these features. Facilitate wildlife viewing and learning, by establishing bird boxes and observation areas with educational exhibits about the types of wildlife visitors might see. Provide interpretive materials or stations that inform about local ecosystems and their functions. Incorporate signs that explain how “no mow zones” are beneficial for humans and wildlife.

Provide Spaces for Social Interaction

Create small theme gardens (such as color, texture, smell, butterfly, etc.). Create “community greens” that can serve as outdoor meeting rooms, break, or study spaces, and spaces for organizational events and celebrations. Ensure that user spaces are safe and secure using Crime Prevention through Environmental Design (CPTED) principles (see www.cpted-watch.com for more information).

Support On-Site Food Production in Healthy Environments

Establish a Community Supported Agriculture (CSA) area for local residents to enjoy growing their own vegetables on a designated plot of land.

Consider Local Cultures/Communities and Their Needs

Identify local groups of potential users and provide amenities that address the needs or support the culture of local people.

Plant Trees

Trees are beneficial additions to any site. Planting trees should be considered during the planning and developing of all recreational sites. Trees have direct human benefits such as creating effective sound barriers that can muffle urban noise almost as effectively as stone walls; producing oxygen, absorbing, and locking away carbon dioxide, and cleaning the air by intercepting airborne particles, reducing heat, and absorbing such pollutants as carbon monoxide, sulfur dioxide, and nitrogen dioxide. Trees shade and cool reducing the need for air conditioning in the summer and break the force of winter winds, lowering heating costs in the winter. Trees fight soil erosion and reduce water runoff and sediment deposition after storms.

References:

¹ Sustainable Sites Initiative. Standards and Guidelines: Preliminary Report. November 1, 2007.

<http://www.sustainablesites.org/report.html>

Additional Resources:

Penn State University, College of Agricultural Sciences Cooperative Extension. From the Woods. Community Forests.

<http://pubs.cas.psu.edu/FreePubs/pdfs/uh173.pdf> Arbor Day Foundation. Nature Explore.

<http://www.arborday.org/explore/classroom/index.cfm>

Recreation Management. Nature and Nurture, Trends in Play Design.

http://www.recmanagement.com/feature_printphp?fid=200907fe02

Local Harvest. Community Supported Agriculture.

<http://www.localharvest.org/csa/>

Bureau of Recreation and Conservation Green Principles for Park Development and Sustainability

Principle #3: Manage Stormwater Naturally

Stormwater runoff occurs when excess water from rainfall and snow events flows across paved streets, parking lots, rooftops, and construction sites. This runoff can be a significant source of pollution and sedimentation ending up in our lakes, rivers, streams, and other water bodies.

The following are stormwater impacts of conventional development (including parks and recreation areas):

- Increased flooding
- Increased runoff volume
- Decreased evapotranspiration and groundwater recharge
- Increased frequency of runoff events
- Erosion and stream channel changes
- Decreased stream baseflow
- Impacted aquatic life
- Pollutant and temperature impacts to streams

Goals of natural stormwater management:

- Capture and detain stormwater runoff as close to the source as possible;
- Reduce the volume of stormwater entering the combined sewer system;
- Filter stormwater to remove pollutants before the runoff enters groundwater, streams, or wetlands;
- Use and promote methods that provide multiple environmental benefits; and
- Use techniques that are less costly than traditional piped solutions.

Consider the following on your site to prevent stormwater from becoming an issue.

Create and Enhance Riparian Buffers

Riparian buffers and riparian forest buffers are areas of vegetation alongside streams and other bodies of water that mitigate floods, recharge groundwater, prevent erosion and sedimentation of the stream, trap pollutants within plant roots, improve aquatic and terrestrial species habitat, and provide optimum food for stream communities. In these locations, native vegetation (ideally a variety of native trees, shrubs, grasses, and wildflowers) provides wildlife habitat, bank stabilization, and water quality benefits.¹ Although smaller buffers will still provide some benefits, to provide the maximum benefits a buffer should be a

minimum of 100 feet on each side of a perennial or intermittent stream, river, lake, pond, and reservoir. For those bodies of water designated as Exceptional Value or High-Quality waters, the minimum width should extend to 150 feet.⁴ Below is a list of tips for managing buffers:³

- Provide some public access to the water but keep vegetation clearance to a minimum.
- Avoid work in streams, wetlands, or waterways whenever possible.
- Don't alter a stream bank or shoreline unless you're returning it to a natural state (banks should normally be sloping and covered with vegetation).
- Soil disturbance should not take place within the buffer by grading, stripping of topsoil, plowing, cultivating, or other practices.
- Motorized vehicles should not be stored or operated within the riparian forest buffer.
- Remove/manage invasive exotic species to keep them from spreading.
- Improve riparian buffers by planting native trees, shrubs and ground covers that are tolerant of wet or seasonally flooded sites.
- Avoid or minimize the use of pesticides and fertilizers near waterbodies.

Protect Wetlands and Critical Recharge Areas

Wetland functions include water quality improvement, floodwater storage, fish and wildlife habitat, aesthetics, and biological productivity.

Wetlands within and downstream of urban areas are particularly valuable, counteracting the greatly increased rate and volume of surface-water runoff from pavement and buildings. They also recharge groundwater and trap sediment, fertilizers, and pollutants. Construction and other forms of disturbance should be avoided in and near wetlands. A vegetated buffer should be maintained around wetlands wherever possible. Man-made wetlands cannot duplicate all the functions of a natural wetland, so it is critical that natural wetlands be protected whenever possible.¹

Critical recharge areas are typically large contiguous areas of land that allow precipitation and other surface waters to infiltrate through the soil to recharge the groundwater. Without constant recharge, periods of drought could leave streams and wells dry, thus affecting available drinking water and wildlife habitat. Practicing green and sustainable initiatives (such as those outlined in this series of fact sheets) when developing in or near a wetland or critical recharge area can ensure that these features are preserved and remain fully functional.¹

Design Natural Stormwater Management Systems

Natural stormwater management can be more cost-effective than traditional gray infrastructure of pipes and treatment facilities. There are many best management practices (BMPs) for natural stormwater management that minimize the impact of impermeable surfaces such as roads, rooftops, and parking lots. These BMPs can include designing narrower roads; permeable surfacing for roads, parking lots, trails, walkways, rain gardens and vegetative swales; and rainwater catchment systems for rooftops. The remaining runoff can be directed to native grass swales or rain gardens. Even just planting more native trees near impermeable surfaces can reduce the need for large, expensive stormwater management systems.¹

Alternative Pavers

A technique for green parking utilizes alternative pavers that can range from medium to relatively high effectiveness in meeting stormwater quality goals. Alternative pavers are permeable or semi-permeable surfaces that can replace asphalt and concrete and can be used for driveways, parking lots and walkways. The different types of alternative pavers include gravel, cobbles, wood mulch, brick, grass pavers, turf blocks, natural stone, pervious concrete, and porous asphalt.²

Stormwater Wetlands

Stormwater wetlands (also called constructed wetlands) are structural practices similar to wet ponds that incorporate wetland plants in a shallow pool. As stormwater runoff flows through the wetland, pollutant removal is achieved by settling and biological uptake within the practice. Stormwater wetlands are fundamentally different from natural wetland systems. They are designed specifically for the purpose of treating stormwater runoff, and typically have less biodiversity than natural wetlands both in terms of plant and animal life.²

Common Stormwater BMPs

- Rain/recharge gardens/bioretention
- Vegetated filter strips
- Vegetated swales
- Porous pavement with infiltration beds
- French drains/dry wells
- Vegetated roofs
- Cisterns/rain barrels/capture reuse
- Constructed wetlands
- Riparian corridor restoration
- Revegetation/reforestation

Non-Structural Stormwater BMPs

- Protect sensitive/special value features
- Protect/enhance riparian areas
- Protect natural flow pathways
- Cluster uses at each site; build on the smallest area possible
- Minimize total disturbed area
- Minimize soil compaction
- Revegetate and reforest disturbed areas, using native species

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<http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-76604/394-5600-001.pdf>

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<http://www.landarch.uiuc.edu/resources/courses/coursewebsites/LA441Web/Readings2006/EPA-PorousPaving.pdf>

U.S. Environmental Protection Agency. Using Smart Growth Techniques as Stormwater Best Management Practices.

http://www.epa.gov/dced/pdf/sg_stormwater_BMP.pdf

Bureau of Recreation and Conservation Green Principles for Park Development and Sustainability

Principle #4: Conserve Energy

The best way to save energy is not to spend it.

Renewable energy and energy efficiency mean less air pollution (including mercury, nitrogen oxides and carbon dioxide), less water consumption and less waste. It means less dependence on foreign oil and more self-sufficiency. It means less ground level ozone, less acid rain, and less particulate matter in the air. Ultimately, this means improved health. There are many opportunities to include renewable energy technology and energy efficiency techniques in site design. Please consider these different alternative energy sources and energy efficiency techniques to power your facilities as you move forward with your project planning and site design.

Accomplishing Energy Efficiency

The following are some techniques that can be incorporated in your site design to help save energy and money, and benefit the environment at the same time:⁸

- Include in your site planning a mandatory maintenance schedule for your building to:
 - Clean filters
 - Replace belts
 - Commission the building (give your building a “tune-up”)
 - Achieve a certain percentage of energy consumption
- HVAC rehab
 - Use state-of-the art, high efficiency, heating, ventilation, and air conditioning (HVAC) and plumbing equipment, chillers, boilers, and water heaters, etc. Use variable speed drives on fan and pump motors. Use heat recovery ventilators and geothermal heat pump technology for up to 40% energy savings.
 - Programmable system to turn on during the day and off at night
 - Fan cyclers/censors to replace or attach to heat pump
- Waterless urinals
- Censored faucets
- On-demand controls in shower houses (faucets, toilets, lighting, fans)
- Instantaneous water heaters
- Sky lights
- Light level meter or dimming system
- Reduce outdoor night-time light pollution by avoiding over-illumination of the site and use low cut-off exterior lighting fixtures which direct light downward.
- Use energy efficient T-8 and T-5 bulbs, high efficiency electronic ballasts, and lighting controls. Consider using indirect ambient lighting with workstation based direct task lighting to improve light quality, reduce glare and improve overall energy performance in general office areas. Incorporate sensors and controls and design circuits so that lighting along perimeter zones and offices can be switched off independently from other interior lights when daylighting is sufficient in perimeter areas.
- Use Energy Star certified energy efficient appliances, office equipment, lighting, and HVAC systems.

Solar

Solar technologies use the sun’s energy to provide heat, light, hot water, electricity, and even cooling, for many different types of facilities. Solar power is probably the cleanest, most viable form of renewable energy available and it can be used in several forms to help power your facility. Many gardens use solar lights or solar garden water features.² A variety of technologies have been developed to harness solar energy. In Pennsylvania, these technologies include: Photovoltaic systems (produces electricity), solar hot water heating, and passive solar heating and daylighting.⁶

Wind

Wind is a clean, inexhaustible, indigenous energy resource that can generate electricity. Wind energy is one of the fastest-growing forms of electricity generation in the world.^{1,3} Pennsylvania has good wind resources in portions of the state. Municipalities and non-profit organizations can use small wind turbines for on-site energy generation.⁷

Geothermal Heat Pump

The ten feet of earth directly beneath the surface maintains a nearly constant temperature between 50° and 60°F (10°-16°C). Like a cave, this ground temperature is warmer than the air above it in the winter and cooler than the air in the summer. Pennsylvania has low to moderate temperature resources that can be tapped for direct heat or for geothermal heat pumps. Geothermal heat pumps take advantage of this resource to heat and cool buildings.¹

Biomass and Biofuels

Biomass and biofuels provide an excellent opportunity to heat and power buildings. Heating options may include the installation of a wood chip heating system, wood pellet furnace or boiler systems, corn furnace, or simply using a biodiesel blended heating oil commonly referred to as a bio-heat product. Biofuels can be used to power small-scale workshop machinery and electricity generators as well as vehicles.¹

Fuel Cells

Fuel cells are an option that local governments can consider when exploring alternative energy choices and distributed energy technologies. A fuel cell is a device that converts the chemical energy of a fuel into electricity with heat and water as the major by-products. There are several types of fuel cells and different fuels used for electricity generation.¹

Using Plants to Reduce Heating and Cooling Needs

Plants can significantly reduce a building's energy needs; it is cooler in the shade of trees during the summer and warmer behind vegetation that block winter winds. The general rule is to plant deciduous trees (those that lose their leaves in winter) on the south and west sides of a building where the sun's rays are most direct and intense. These trees will provide shade during summer but permit the winter sun to provide warmth. Where there isn't room for trees, shrubs and vines can provide similar benefits. Extensive use of trees to shade buildings, streets, driveways, and other large, paved surfaces can even cool entire communities. To reduce winter heating costs, plant evergreen trees and shrubs as windbreaks. Most cold winds come from the north or west (though this can vary locally), so on those sides of the building plant a dense row of evergreens that maintain branches low to the ground. Where new construction is planned consider "green roofing" where roofs are specially designed to accommodate plants. Such roofs provide insulating value that further reduces heating and cooling needs and can be very long-lasting when properly maintained.^{4,5}

References:

¹ Department of Environmental Protection. Alternative Energy.
<http://www.depweb.state.pa.us/energy/cwp/view.asp?a=1379&q=485551>

² American Solar Energy Society. Go Solar: How to get started with solar energy.
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³ U.S. Department of Energy. Energy Efficiency and Renewable Energy. State Energy Alternatives. Alternative Energy Resources in Pennsylvania.

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Bureau of Recreation and Conservation Green Principles for Park Development and Sustainability

Principle #5: Integrate Green Design and Construction

The ideal "green" project preserves and restores habitat that is vital for sustaining life. The site and all structures on the site become net producers and exporters of resources, materials, energy, and water rather than being net consumers. In other words, a green building is one whose construction and lifetime of operation assure the healthiest possible environment while representing the most efficient and least disruptive use of land, water, energy, and resources. The optimum design solution is one that effectively emulates all of the natural systems and conditions of the pre-developed site – after development is complete.¹

Green infrastructure means restoring floodplains to their naturally functioning system instead of building taller levees. It means planting trees, preserving open space, and installing features like rain gardens, grass swales and green roofs, rather than

enlarging sewers or building costly new treatment plants. It means retrofitting buildings and homes with water-efficient plumbing and rainwater capture systems instead of constructing an expensive water supply dam.

Green Design Can Save Money

While many green materials and technologies do cost more, it has been demonstrated that many green strategies and technologies actually cost the same and some even cost less than traditional “not-so-green” technologies. Often the key to a cost-effective green building and site design lies within the interrelationships and associated cost and performance trade-offs that exist between different building systems. For example, the use of high-performance windows and window frames increases the initial building costs, however the resulting reduction in the size and cost of the buildings heating and cooling system more than offsets the added cost of the better glazing system. The result is a building that has a comparable or perhaps even a lower first cost, a higher comfort level, lower energy use, and lower energy bills and operating cost for the life of the building.¹ Leadership in Energy & Environmental Design (LEED) Green Building Rating System™.

A voluntary, consensus-based standard to support and certify successful green building design, construction, and operations. LEED is transforming the marketplace by providing a nationally recognized certification system to promote integrated, whole-building design practices in the building industry.²

For a project to become LEED certified, it is required that the project follows energy efficiency, environmentally conscious methods, as defined by the LEED Green Building Rating System, Version 3, 2009, in the following areas:

By blending the right mix of green technologies that cost less with green technologies that cost the same or slightly more, it is possible to have a very green building project that costs the same as a conventional one.

Vegetative Green Roofs

A green roof, or rooftop garden, is a vegetative layer grown on a rooftop. Green roofs have a layer of living plants on top of the structure and the waterproofing elements.

Why are vegetative green roofs such a good idea? ⁴

They reduce roof stormwater runoff. In some cases, this can help reduce the size of stormwater pipes, and the amount of stormwater that needs to be treated by municipal water treatment. They also filter pollutants from rainfall.

Green roofs also protect the roof membrane from sunlight, which breaks down the roofing material. Having even a couple inches of soil helps to greatly extend the life of the roof, and a longer lifespan means less material ends up in landfills from reproofing buildings after the membranes have failed.

They reduce energy use: Green roofs absorb heat and act as insulators for buildings, reducing energy needed to provide cooling and heating.

A green roof is also a source of oxygen and provides a habitat for some birds and insects. They reduce air pollution and greenhouse gas emissions: by lowering air conditioning demand, green roofs can decrease the production of associated air pollution and greenhouse gas emissions. Vegetation can also remove air pollutants and greenhouse gas emissions through dry deposition and carbon sequestration and storage.

A Few Techniques to Consider:³

Optimize building orientation, massing, shape, design, and interior colors and finishes. By maximizing the use of controlled natural day lighting artificial lighting energy use will be significantly reduced. Provide shades or daylight controls where needed.

Use **high performance low-e glazing**. Consider insulated double glazing, triple glazing or double pane glazing with a suspended low-e film. Selective coatings offer optimal light transmittance while providing minimal solar gain and minimal heat transmission. Window frames, sashes and curtain wall systems should also be designed for optimum energy performance including the use of multiple thermal breaks to help reduce energy use.

Avoid the use of HCFC and Halon based refrigeration, cooling and fire suppression systems. Optimize the use of natural ventilation and where practical use evaporative cooling, waste heat and/or solar regenerated desiccant dehumidification or absorption cooling. Identify and use sources of waste energy.

Identify ways to **use high-recycled content materials** in the building structure and finishes. Consider everything from blended concrete using fly ash, slag, recycled concrete aggregate, or other admixtures to recycled content materials such as structural steel, ceiling and floor tiles, carpeting, carpet padding, sheathing, and gypsum wallboard. Consider remanufactured office furniture and office partition systems, chairs and furniture with recycled content or parts.

Explore the use of **bio-based materials and finishes** such as various types of agriboard (sheathing and/or insulation board made from agricultural waste and byproducts, including straw, wheat, barley, soy, sunflower shells, peanut shells, and other materials). Some structural insulated panels are now made from bio-based materials. Use lumber and wood products from certified forests where the forest is managed, and lumber is harvested using sustainable practices. Use resource efficient engineered wood products in lieu of full dimension lumber which comes from older growth forests.

Evaluate all products and systems used for their **ability to be recycled** when they reach the end of their useful life. Preference should be given to products and systems that facilitate easy, non-energy intensive separation and recycling with minimal contamination by foreign debris.

Recognize that **transportation** becomes part of a product or building materials embodied energy. Where practical, specify and use locally harvested, mined and manufactured materials and products to support the regional economy and to reduce transportation, energy use and emissions.

Develop a **strict waste-management practice** to divert construction wastes from reaching the landfill. Use materials and resources found on the site in the site design and construction.

For a project to become LEED certified, it is required that the project follows energy efficiency, environmentally conscious methods, as defined by the LEED Green Building Rating System, Version 3, 2009, in the following areas:

- Sustainable Sites
- Water Efficiency
- Energy & Atmospheric
- Materials & Resources
- Indoor Environmental Quality
- Innovation in Design
- Regional Priority

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APPENDIX E: GREEN INFRASTRUCTURE IN PARKS

Green infrastructure in parks is established first by building partnerships between park and stormwater agencies to utilize park land for green infrastructure. Green infrastructure in parks will lead to opportunities to enhance stormwater management capacity, park improvements, and funding for the park. The main goals of green infrastructure in parks are to promote and enhance overall environmental, economic, and social benefits.

How Green Infrastructure Can Enhance Parks

- **Recreation Value** – creating or enhancing amenities and environmental quality.
- **Park Appeal** – Combines function of runoff management with design to apply native plantings, creates strategic topographic function, interest, and layout for amenities.
- **Enhance Social and Environmental Equity** – addresses environmental justice by combining parks and green infrastructure to create benefits for the entire community by improving environment, quality of life, and providing access to public amenities.
- **Reduces Maintenance** – stormwater utility funds for improved drainage, reduce erosion, and eliminate standing water.
- **Improves Drainage** – provides options to mitigate drainage and flooding problems.
- **Education** – provides opportunities to educate public with interpretive signage about the importance and types of measures that reduce stormwater pollution at various level and applications.
- **Economic Benefits** – can be installed to earn stormwater utility credits, maintenance funding, or have BMPs managed by an outside party depending on types and approaches take by the local municipality.
- **Water Quality** – stormwater volume and pollutant reductions which can help meet municipality regulatory requirements.
- **Environmental Benefits** – improves urban heat island effects and overall environmental and ecosystem quality with the incorporation of green space and native perennial, shrub, and tree plantings attracting wildlife.

Combining Parks and Green Infrastructure

Green Infrastructure serves parks by utilizing open areas for absorption and park infrastructure areas built or retrofitted to treat stormwater or drain to enhanced pervious surfaces including parking lots, visitor centers, playing fields, paved trails, walkways, and roads, wetlands, and drainage systems.

Common Questions / Concerns

Why choose green infrastructure over traditional gray infrastructure?

Benefits of choosing green infrastructure include:

- Attractiveness, effectiveness, and multifunctional capacity
- Habitat for beneficial wildlife / pollinators
- Ability to reduce maintenance and eliminate mosquito breeding habitat
- Can incorporate existing park features / natural and man-made
- Potential to reduce infrastructure costs



Will it attract nuisance wildlife and pests such as mosquitos?

If designed and maintained correctly it will not:

- Implement a mix of plants to attract beneficial wildlife.
- Select green infrastructure elements that eliminate standing water that could serve as mosquito breeding habitat, and design facilities to drain in 72 hours and / or ensure permanent pools don't become stagnant.
- Nuisance wildlife can occur in all parks, but good design and management practices such as eliminating food sources and providing securely covered trash receptacles can reduce or eliminate problems.
- Inspect practices regularly to remedy any problems.

Will stormwater features be unattractive or unsafe?

Not if green infrastructure is used:

- Green infrastructure practices are typically integrated into the landscape and rely mainly on soils, vegetation, and infiltration to reduce runoff.
- Traditional stormwater management creates detention basins and wet ponds that are often unsightly and need fences to keep out the public.
- Green infrastructure features can be designed with aesthetics in mind and can even incorporate benches, art, or sculptural designs.

How to maintain public safety and limit liability?

If possible, design features to infiltrate runoff:

- Design stormwater elements that minimize the risk potential for park users such as eliminating trip hazards, adding crushed stone paths, or designing boardwalks or viewing platforms.
- Create water feature areas with the public in mind promoting informed design, clear sight lines, and natural features such as wetland fringes can reduce or eliminate hazards.
- Limit access to gently sloping bank areas around water features by adding natural screens and barriers, and allow public access where it can be controlled or monitored by park staff.

What are the funding and maintenance needs?

Funding:

- Stormwater utilities often have program funding that can be used to construct and maintain stormwater features in parks.
- In some cases, stormwater management agencies may provide direct funding to parks to operate and maintain stormwater management features that the stormwater utility builds in the park or areas adjacent to the park.
- Depending on the jurisdiction, costs can be shared across agencies.
- Grants might be available from the state or other granting organizations, such as nongovernmental agencies that have an interest in enhancing the park and the community in general. Examples of such funds include community revitalization, smart growth, or watershed restoration funds.
- A wider range of grants could be available because of the multifunctional nature of such projects that may have park enhancement, as well as watershed, and neighborhood improvement grants.

Funding Maintenance:

- If the community has a stormwater utility, money can be set aside for green infrastructure maintenance.
- If both parks agencies and stormwater agencies receive general funds, a maintenance budget can be negotiated and allocated according to each agency's responsibilities.
- When deciding to engage in creative management arrangements such as these, be sure that funds are budgeted before the project is constructed and that long-term operation and maintenance needs are incorporated into the continuing operating budget. This will help ensure that adequate funds are allocated to the agency responsible for the maintenance burden.

Maintenance Duties:

- If funds are allocated to supplement the existing park maintenance activities, park maintenance staff or contractors managed by the park can perform the necessary maintenance.
- Most green infrastructure practices can be maintained by landscape professionals who have received some supplemental training specific to the stormwater practices being implemented.
- In other cases, the stormwater agency might want to either directly manage maintenance or oversee maintenance to ensure proper functioning of the stormwater management practices.
- Maintenance responsibilities can also be divided between the park maintenance staff and staff trained or managed by the stormwater utility, depending on the practices employed. For example, maintenance of bioretention facilities typically can be taken care of by the regular landscape crews as long as they understand what to mow and weed and how to identify problems. More difficult maintenance activities, such as the use of vacuum sweepers for permeable pavements or the maintenance of water features, could be performed by the stormwater utility.
- Ideally, the details, responsibilities, and funding allocations should be worked out in a memorandum of understanding (MOU) or other such agreement between agencies (see page 18).
- Most vegetative practices like rain gardens are maintained like any landscaping - weeding, pruning, digging, and removing trash.
- Rainwater harvesting practices require simple cleaning of gutters and downspouts.
- Permeable pavement is low maintenance but can benefit from occasional vacuum sweeping.

Process for Implementing Green Infrastructure

1. **Identify and Engage Partners** – determine interest and funding opportunities
 - a. Government Agencies – local, transportation departments, school districts, community colleges and technical schools, public health agencies, planning agencies, sustainability agencies
 - b. Community Partners – Neighborhood and community associations, business improvement districts, watershed groups, friends of parks, urban forestry advocates, local businesses, and garden clubs
2. **Build Relationships** – work with partners to identify common mutually beneficial goals
3. **Leverage Funding Opportunities** – funds can be utilized from partnerships with departments such as water providers, stormwater utilities, and watershed and environmental groups
4. **Identify Green Infrastructure Opportunities** – strategically plan for location(s) of green infrastructure in park that will maximize benefits
 - a. Capture runoff, target hard surfaces, take advantage of areas with infiltration potential, and protect riparian areas and floodplains
5. **Plan for Maintenance** – define roles and responsibilities, perform maintenance and repairs
 - a. Create a memorandum of understanding (MOU) to define role and responsibilities of the agencies, ensure optimal performance of park/green infrastructure facility, engage community service organizations, and recognize potential for green jobs
6. **Undertake High-Visibility a Pilot Projects** – Consider selection one or more high-visibility pilot sites to gain support from community to implement more green practices
 - a. Opportunities to advertise the purpose and benefits of the projects, highlight community partnerships, donors, and volunteers involved in the application of the project.

Useful Resources

- City Parks, Clean Water: Making Great Places Using Green Infrastructure Trust for Public Lands 2016
- Tools, Strategies and Lessons Learned from EPA Green Infrastructure Technical Assistance Projects USEPA 2015
- How Cities Use Parks
- for Green Infrastructure American Planning Association, City Parks Forum
- Green Jobs in Your Community USEPA
- Green Infrastructure Opportunities that Arise During Municipal Operations USEPA 2015
- Greenforce Initiative Jobs for the Future 2016

ACTION	BENEFIT TO PARKS
Convert turf areas with high maintenance requirements to bioretention areas or other naturalized areas	Reduces maintenance and other costs associated with the management of turf
Install cisterns or rain barrels to collect roof runoff for irrigation	Reduces potable or recycled water use
Install permeable pavement or pavers	Reduces runoff, pavement maintenance, and use of deicers
Amend soils to improve infiltration	Eliminates standing water and mosquito breeding habitat
Install bioretention in underutilized perimeter areas	Reduces runoff and flooding and beautifies low use landscaped areas
Include educational signage describing BMPs and stormwater impacts	Creates opportunities for environmental education
Install green roofs	Increases lifespan of roof, lowers energy cost, and manages stormwater
Remove unnecessary impervious surfaces	Reduces runoff and decreases erosion

These green infrastructure actions can help park agencies meet one or more of the following goals and priorities, including:

- Enhancing park aesthetics with natural drainage.
- Providing recreational opportunities in underserved communities.
- Meeting the demand for better park features.
- Improving drainage in low-lying areas.
- Reducing Landscaping and facility maintenance
- Improving the quality of compacted urban soils.
- Providing habitat for ecological diversity.
- Sharing costs among agencies.
- Providing ideal locations for green stormwater management.

This summary was adapted from:

Green Infrastructure in Parks: A Guide to Collaboration, Funding and Community Engagement

U.S. EPA, Office of Water – June 2017

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APPENDIX F: STORMWATER MANAGEMENT

Site Stormwater

Despite these regulations, municipalities must provide additional measures to further protect watersheds and also provide protection from off-site development activities that may affect downstream watersheds, natural resources, and property. The ACT 167 ordinance in conjunction with the Stormwater Management Ordinance and MS-4 requirements of Westtown Township provide a comprehensive program for the management of stormwater runoff and provide reasonable regulation of development and construction activities which have the potential of causing accelerated erosion and the protection of the waters of the Commonwealth.

Municipalities must be vigilant in the enforcement of these regulations, and in conjunction with county, state, and federal agencies, ensure that the entire watershed is protected through the use of reasonable practices, consistent design guidelines, enforcement authority, and the distribution of the financial burden to ensure that all stakeholders play an important role in the protection of natural resources.

Trail improvements for parks are primarily considered linear projects and typically result in minimal earth disturbances and a minor increase in impervious area in relation to the overall project sites. However, in accordance with municipal requirements, projects that propose an increase in impervious area beyond 5,000 square feet require management of stormwater runoff to prevent degradation of receiving waters.

Due to the increase in stormwater runoff rate and volume from the proposed impervious areas, runoff from linear projects is best mitigated by means of non-structural stormwater management Best Management Practices (BMPs) such as vegetative filter strips, vegetative plantings, installation of amended soils, impervious area disconnection, and retentive grading. For areas of higher amounts of runoff, small scale stormwater management facilities can be used to promote infiltration and improve water quality such as infiltration trenches/swales and rain gardens, provided that on-site soil conditions are suitable for such facilities.

Trail segments are located in a variety of soil conditions including areas adjacent to wet ponds, wetlands, wooded areas, steep slopes, and other natural resources limiting the available locations to provide structural stormwater infiltration or detention facilities. With consideration of these limitations, it is recommended that the consultant work closely with the municipality in the layout of the trail system and utilize creative stormwater management solutions that complement the surrounding topography and reduce concentrated flow areas by providing non-structural BMPs wherever possible. The approach should include an analysis of High Priority Avoidance Areas such as ponds and wetlands, incorporate Low Impact Development (LID) and BMP techniques, and implement non-structural BMPs with a focus on vegetation, impervious area disconnection, evapotranspiration, and water quality improvements. In addition, the long-term maintenance of such facilities should be a priority in considering the types of measures to be implemented into the project, as access to these areas may be limited due to the site features previously described.

Selected vegetative BMPs should primarily be low maintenance seed types such as Native Species, Wildflowers, Warm Season Meadow, with avoidance of turf where possible. This approach will minimize the amount and extents of mowing, reducing long term costs, while maximizing the water quality benefit and aesthetic appeal of the park. Where turf is necessary, amended soils could be utilized to nourish the proposed vegetation, permit runoff filtration, and provide void ratio/holding capacity to allow runoff to be evapo-transpired by plant up-take. Regardless of the approach, underlying soil conditions and surrounding natural resources should be considered in the design.

Where larger impervious surfaces are proposed such as roof or paved areas, runoff should be managed at the source to improve water quality and reduce runoff velocities leaving the immediate area in a non-concentrated fashion. Such improvements could incorporate rain-barrels, roof disconnection, low impact energy dissipaters, perimeter planted/stoned areas, or other features that complement the natural characteristics of the surrounding area and avoid larger structural stormwater management facilities wherever possible.

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APPENDIX G: PENNSYLVANIA NATURAL DIVERSITY INVENTORY (PNDI) REPORT

Introduction

The Pennsylvania Natural Diversity Inventory Environmental Review Tool (PNDI ER Tool) enables the public to perform online PNDI searches for potential impacts to threatened, endangered, special concern species and special concern resources in PA. Anyone including property owners, consultants, project planners and PA DEP or PA CCD staff can access the tool for PNDI project screening.

The PNDI ER Tool is used prior to submitting permit applications to DEP or during any project pre-planning phases. The user performs the search online using the ER Tool, prints the results from the search (called "PNDI Environmental Review Receipt") and follows the instructions on the receipt. For more information about the receipt results and what they mean, please visit the PNDI Receipt page.

In order to adequately provide for the protection of special concern species and resources while also reducing the number of false hits when conducting PNDI searches, it is important that the correct project area and type is entered into the PNDI ER Tool. If you believe you have entered the information incorrectly, please rerun the search.

Large Projects

Some projects are too large to be drawn in the PNDI Environmental Review Tool and are therefore called "Large Projects." To find out if your project is a Large Project, please visit the Large Project Information Page.

Early Coordination

Because the Environmental Review Tool is easily accessible to the public, it is recommended that PNDI coordination be completed prior to project development and submission of any permit applications. During instances when the PNDI search indicates potential impacts, early consultation with the proper special concern species or resource jurisdictional agencies (preferably prior to plan development) is crucial. Early consultation not only minimizes associated delays and cost, but also facilitates the integration of more effective conservation measures into project planning.

RESOURCE AGENCY JURISDICTION

A PNDI ER Tool web-site inquiry generates on-line search results concerning the potential impacts of a project to special concern species and resources. Four government agencies have jurisdiction over the protection of these resources:

U.S. Fish and Wildlife Service Federally listed, proposed & candidate species Statute: Endangered Species Act of 1973 16 U.S.C. §§ 1531 et seq.	Pennsylvania Game Commission PA state-listed birds and mammals Statute: Game and Wildlife Code 34 Pa. C.S.A. §§ 101 et seq.
Pennsylvania Fish and Boat Commission PA state-listed fish, reptiles, amphibians, and aquatic organisms Statute: Fish and Boat Code 30 Pa. C.S.A. §§ 101 et seq.	Pennsylvania Department of Conservation and Natural Resources PA state-listed plants, natural communities, terrestrial invertebrates, and geological features Statute: Wild Resources Conservation Act 32 P.S. §§ 5301 et seq.

Source: http://www.gis.dcnr.state.pa.us/hgis-er/PNDI_Introduction.aspx

1. PROJECT INFORMATION

Project Name: Oakbourne Park Master Plan Project
Date of Review: 1/7/2021 04:04:44 PM
Project Category: Recreation, Other
Project Area: 160.45 acres
County(s): Chester
Township/Municipality(s): WESTTOWN TOWNSHIP
ZIP Code:
Quadrangle Name(s): WEST CHESTER
Watersheds HUC 8: Lower Delaware
Watersheds HUC 12: Chester Creek
Decimal Degrees: 39.937075, -75.572178
Degrees Minutes Seconds: 39° 56' 13.4710" N, 75° 34' 19.8400" W

This is a draft receipt for information only. It has not been submitted to jurisdictional agencies for review.

2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	No Known Impact	No Further Review Required
PA Department of Conservation and Natural Resources	No Known Impact	No Further Review Required
PA Fish and Boat Commission	No Known Impact	No Further Review Required
U.S. Fish and Wildlife Service	Potential Impact	MORE INFORMATION REQUIRED, See Agency Response

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate there may be potential impacts to threatened and endangered and/or special concern species and resources within the project area. If the response above indicates "No Further Review Required" no additional communication with the respective agency is required. If the response is "Further Review Required" or "See Agency Response," refer to the appropriate agency comments below. Please see the DEP Information Section of this receipt if a PA Department of Environmental Protection Permit is required.

Oakbourne Park Master Plan Project



- Project Boundary
- Buffered Project Boundary



Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China

Oakbourne Park Master Plan Project



- Project Boundary
- Buffered Project Boundary

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community



RESPONSE TO QUESTION(S) ASKED

Q1: Accurately describe what is known about wetland presence in the project area or on the land parcel by selecting ONE of the following. "Project" includes all features of the project (including buildings, roads, utility lines, outfall and intake structures, wells, stormwater retention/detention basins, parking lots, driveways, lawns, etc.), as well as all associated impacts (e.g., temporary staging areas, work areas, temporary road crossings, areas subject to grading or clearing, etc.). Include all areas that will be permanently or temporarily affected -- either directly or indirectly -- by any type of disturbance (e.g., land clearing, grading, tree removal, flooding, etc.). Land parcel = the lot(s) on which some type of project(s) or activity(s) are proposed to occur.

Your answer is: The project area (or land parcel) has not been investigated by someone qualified to identify and delineate wetlands, or it is currently unknown if the project or project activities will affect wetlands.

Q2: The proposed project is in the range of the Indiana bat. Describe how the project will affect bat habitat (forests, woodlots and trees) and indicate what measures will be taken in consideration of this. Round acreages up to the nearest acre (e.g., 0.2 acres = 1 acre).

Your answer is: The project will affect 1 to 39 acres of forests, woodlots and trees.

Q3: Is tree removal, tree cutting or forest clearing of 40 acres or more necessary to implement all aspects of this project?

Your answer is: No

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are valid for two years (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jurisdictional agencies strongly advise against conducting surveys for the species listed on the receipt prior to consultation with the agencies.

PA Game Commission

RESPONSE:

No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Department of Conservation and Natural Resources

RESPONSE:

No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Fish and Boat Commission

RESPONSE:

No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

U.S. Fish and Wildlife Service

RESPONSE:

Information Request: Conduct a Bog Turtle Habitat (Phase 1) Survey in accordance with USFWS Guidelines for Bog Turtle Surveys (April 2020). Evaluate all wetlands within 300 feet of the project area, which includes all areas that will be impacted by earth disturbance or project features (e.g., roads, structures, utility lines, lawns, detention basins, staging areas, etc.). IF THE PHASE 1 SURVEY IS DONE BY A QUALIFIED BOG TURTLE SURVEYOR (see <https://www.fws.gov/northeast/nfo/endangered/surveys.html>): 1) Send positive results to USFWS for concurrence, along with a project description documenting how impacts will be avoided. OR, conduct a Phase 2 survey and send Phase 1 and 2 results to USFWS for concurrence. 2) Send a courtesy copy of negative results to USFWS (label as "Negative Phase 1 Survey Results by Qualified Bog Turtle Surveyor: USFWS Courtesy Copy"). USFWS approval of negative results is not necessary when a qualified surveyor does the survey in full accordance with USFWS guidelines. IF THE PHASE 1 SURVEY IS NOT DONE BY A QUALIFIED SURVEYOR: Send ALL Phase 1 results to USFWS for concurrence, and if potential habitat is found, also send a project description documenting how impacts will be avoided. As a qualified bog turtle surveyor, I _____ (name) certify that I conducted a Phase 1 survey of all wetlands in and within 300 feet of the project area on _____ (date) and determined that bog turtle habitat is absent.

(Signature)

WHAT TO SEND TO JURISDICTIONAL AGENCIES

If project information was requested by one or more of the agencies above, upload* or email* the following information to the agency(s). Instructions for uploading project materials can be found [here](#). This option provides the applicant with the convenience of sending project materials to a single location accessible to all three state agencies. Alternatively, applicants may email or mail their project materials (see AGENCY CONTACT INFORMATION).

Check-list of Minimum Materials to be submitted:

____ Project narrative with a description of the overall project, the work to be performed, current physical characteristics of the site and acreage to be impacted.

____ A map with the project boundary and/or a basic site plan (particularly showing the relationship of the project to the physical features such as wetlands, streams, ponds, rock outcrops, etc.)

In addition to the materials listed above, USFWS REQUIRES the following

____ SIGNED copy of a Final Project Environmental Review Receipt

The inclusion of the following information may expedite the review process.

____ Color photos keyed to the basic site plan (i.e. showing on the site plan where and in what direction each photo was taken and the date of the photos)

____ Information about the presence and location of wetlands in the project area, and how this was determined (e.g., by a qualified wetlands biologist), if wetlands are present in the project area, provide project plans showing the location of all project features, as well as wetlands and streams.

4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. Two review options are available to permit applicants for handling PNDI coordination in conjunction with DEP's permit review process involving either T&E Species or species of special concern. Under sequential review, the permit applicant performs a PNDI screening and completes all coordination with the appropriate jurisdictional agencies prior to submitting the permit application. The applicant will include with its application, both a PNDI receipt and/or a clearance letter from the jurisdictional agency if the PNDI Receipt shows a Potential Impact to a species or the applicant chooses to obtain letters directly from the jurisdictional agencies. Under concurrent review, DEP, where feasible, will allow technical review of the permit to occur concurrently with the T&E species consultation with the jurisdictional agency. The applicant must still supply a copy of the PNDI Receipt with its permit application. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. The applicant and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at <https://conservationexplorer.dcnr.pa.gov/content/resources>.

5. ADDITIONAL INFORMATION

The PNDI environmental review website is a preliminary screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (www.naturalheritage.state.pa.us). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.



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APPENDIX H: FUNDING SOURCES

Funding sources change frequently in terms of type, grant amount, and the priorities of the funding organization. The following list is presented as links to the current online resources.

Key Pennsylvania Grant Summary

Grant / Funding Source	Grant / Funding Source	General Scope / Improvement Work	Realistic Grant Ceiling	Required Match Levels		Application Timeframe	Who Can Be the Grantee
				State	Local		
DCED (CFA)	Greenways, Trails and Rec. Program	Projects involving development, rehabilitation and improvements to public parks, recreation areas, greenways, trails, and river conservation	\$250,000	85%	15%	2/1 – 5/31	C/M N A
DCED (CFA)	Multimodal Transportation Fund	Projects involving development, rehabilitation, and enhancement of transportation assets to existing communities, streetscape, lighting, sidewalk enhancement, pedestrian safety, connectivity of transportation assets and transit-oriented development	\$250,000	70%	30%	3/1 – 7/31	C/M N A
DCED	Marcellus Legacy Fund	Projects involving acid mine drainage abatement, watershed restoration, gas well management and plugging, development and rehabilitation of greenways and recreational trails, sewage treatment projects, and replacement and repair of deteriorated bridges in municipalities with unconventional gas wells	\$300,000	85%	15%	2/1 – 5/31	C/M N A
DCNR	Community Conservation Partnership Program (C2P2)	Projects involving planning, acquisition and development of public parks, recreation areas, motorized/non-motorized trails, river conservation and access, and conservation of open space	\$200,000	50%	50%	1/15 – 4/15	C/M N A
DCNR	Riparian Forest Buffer Program	Projects involving landowner outreach, buffer design, site preparation and buffer installation, plant materials and tree shelters, and short-term maintenance	Unknown	50%	50%	Due 12/29	C/M N A
DEP	Growing Greener Environmental Stewardship Fund	Projects involving the development of multipurpose trails, greenways, and parks in our communities	Unknown	85%	15%	5/14 – 7/13	C/M N A
PECO	PECO Green Region Open Space Program	Projects that preserve, protect, and improve public spaces such as updating open space plans, habitat improvements, including planning, installation, and land acquisition costs.	\$10,000	50%	50%	10/15	C/M N A

Legend: C/M=County/Municipal; N=Non-profit; A=Authority

State and Federal Funding

Recreation, Parks, Trails, and Conservation

- [Finding the Green: A Guide to State Funding Opportunities for Conservation, Recreation & Preservation Projects](#)
- [Growing Greener Environmental Stewardship Fund: Community Conservation Partnerships Program Grants \(PA Department of Conservation and Natural Resources\), Watershed and Environmental Education Grants \(PA Department of Agriculture\), Drinking Water/Sewer Infrastructure Grants \(PA Infrastructure Investment Authority\)](#)
- [Keystone Recreation, Park & Conservation Fund: Community Conservation Partnerships Program Grants \(PA Department of Conservation and Natural Resources\), Historic Preservation Grants \(PA Historical and Museum Commission\), Library Grants \(PA Department of Education\)](#)
- [Land and Water Conservation Fund](#): LWCF funding is intended to protect national parks, areas around rivers and lakes, national forests, and national wildlife refuges from development, and to provide matching grants for state and local parks and recreation projects. [LWCF Success in Pennsylvania](#) In 2020, the LWCF was made permanent and fully funded by an Act of Congress. However, the money must still be appropriated annually in the United States budget. With a minimum of 40% of the fund to go to stateside assistance, the LWCF has the potential to provide much more assistance than ever since it was first adopted in 1964. Pennsylvania has already seen an increase in this source of funds enabling the Commonwealth to award up to \$1.5 million grants for park acquisition, development, and revitalization.
- <https://www.usda.gov/topics/farming/grants-and-loans> -U.S. Department of Agriculture has several hundred funding sources
- [PA Council on the Arts: Arts and Culture Grants](#)
- [PA Conservation Reserve Enhancement Program \(CREP\)](#)
- [PA Department of Community and Economic Development](#)
Variety of technical assistance programs and funding opportunities including: Greenways, Trails and Recreation Program and Watershed Restoration and Protection Program, Multimodal Transportation Fund, Flood Mitigation Program (FMP), H2O PA (Flood Control Projects, Unsafe Dam Project, and Storm Water Projects), Sewage Facilities Program (SFP)
- [PA Department of Transportation: Transportation Grants](#)
- [PA Fish and Boat Commission: Fishing, Boating and Aquatic Resource Conservation Grants](#)
- [PA Land Trust Association: Conservation Easement Assistance Program](#)
- [The Center for Rural Pennsylvania: Research Grants](#)
- [The Pennsylvania Historical and Museum Commission \(PHMC\)](#)

Multiple funding programs are available to nonprofit organizations and local governments. Tax credits are available to owners of certified historic buildings in income producing use. There are no grant or tax credit programs available to private homeowners. This section provides information about each program and type of grant and tax credit.

Chester County Funding

The Commissioners of Chester County, Pennsylvania offers two distinct programs that provide funding to municipalities and non-profit land conservation organizations to permanently preserve significant natural, recreational, agricultural, historic, and cultural land resources; enhance public access to those lands; provide public benefit; and implement County and municipal land use policies. The programs are administered by the Department of Parks and Preservation.

- Municipal Program
- Acquisition Grants
- Park and Trail Improvement Grants
- Conservancy Program
- Acquisition Grants
- Public Benefit Improvement Grants

<https://www.chesco.org/DocumentCenter/View/52293/Round-33-Manual?bidId=>

Athletic Grants and Foundations

- [Finish Line Youth Foundation: Program Development, Facility Improvement and Emergency Assistance Grants](#)
- [National Football League Grassroots Program: Capital Field Improvement Grants](#)
- [Target: Youth Soccer Program Development Grants](#)
- [Tony Hawk Foundation: Skatepark Grants](#)
- [United States Golf Association: Junior Program Development Grants](#)
- [US Soccer Foundation: Program Development and Field Improvement Grants](#)
- [National Gardening Association: School and Youth Garden Program Development Grants](#)

National Recreation and Park Association

[National Recreation and Park Association](#) - The National Recreation and Park Association (NRPA) periodically posts information about grant and fundraising opportunities that are available for park and recreation agencies and affiliated friends' groups and 501(c)(3) nonprofits.

Independent Fundraising Resources

When looking for funding and grants, there are many resources available on the Internet. Below are just a few suggestions on where to start your research.

1. [PA Community Foundations](#) - A community foundation uses donated funds to establish and grow an endowment to benefit a specific geographic area. The interest earned from the endowment supports the foundation's general grants program, as well as its operating expenses. People with significant resources and philanthropic interests, but who do not wish to operate their own grantmaking process, often establish "donor advised funds" through their area community foundations specifying the types of charitable activities their funds will support, as well as how active they will be in grant award decisions. The community foundation invests and manages the donated funds and administers all aspects of the grantmaking. Community foundations support many types of activities.
2. [Foundation Center](#): Provides both training and research information on corporate and foundation grant programs. The grants database is a collection of thousands of grants.
3. [GuideStar](#): An excellent source of IRS 990 forms for foundations and other nonprofit organizations.
4. [Chronicle of Philanthropy](#): The Chronicle is a newspaper for nonprofit news publishing, fundraising trends, resources, and recent grants.
5. Crowdfunding Toolkits.
6. [Nonprofit Times](#): Nonprofit management newspaper.
7. [Hoovers](#): Profiles millions of U.S. companies. It is a great source for employee contact information.
8. [Fortune Magazine](#): A resource for identifying companies by state and industry.
9. [Leadership Directories](#)
10. Google, Yahoo Finance, and other general search engines.
11. Newspapers and magazines like the Wall Street Journal, Newsweek, New York Times.

Accessibility – Sources of Information

- [PRPS Inclusion Task Force](#)
- [Pennsylvania Park Maintenance Institute](#)
- [Model Aquatic Health Code \(MAHC\): An All-inclusive Model Public Swimming Pool and Spa Code](#)
- [National Center on Accessibility](#)
- [National Recreation and Park Association](#)
- [National Recreation and Park Association: Embracing](#)
- [Access & Inclusion to Succeed](#)
- [Temple University Collaborative: Community Inclusion Resources](#)

FOREST AND TREE STEWARDSHIP PLAN

for

Oakbourne Park

**Westtown Township
Pennsylvania**

This natural forest addressed by this Plan
is located on this historic property and covers 49 acres, more or less.

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Forest and Tree Stewardship Plan Oakbourne Park

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Forest and Tree Stewardship Plan

Oakbourne Park Westtown Township

Part 1 — INTRODUCTION

Owners Objectives

“To improve the health and condition of the biomass in Oakbourne Park in order to maintain the Arboretum and natural woodlot for future generations of Westtown and area residents and to provide recreation opportunities in Oakbourne Park.”

Location of Property

This 94 acre tract is located in Westtown township, bounded by South Concord Road on the East; Oakbourne Road on the North; East Pleasant Grove Road on the South; and on the West side by properties along Kerwood Road and Dogwood Lane. Topography is rolling hills and valleys with the highest elevation at 474 feet above sea level along the ridge in the far Northwest corner of the tract. Just to the Southwest of the Mansion, the large white Philadelphia Suburban Water Tank near the Gaudenzia buildings is 460 feet in elevation. The lowest elevation on the property is 343 feet at the junction of South Concord Road and Oakbourne Road where the unnamed Run that drains the Pond exits the property. The surface area of the Pond is 1.34 acres in size.

Native forests comprise about 49 ± acres with the balance in buildings, parking lots, grassland, and the widely scattered trees in the Arboretum.

Importance of the Property within the Community

The Westtown Township purchased Oakbourne in 1974, 35 acres with its historic Mansion, Water Tower, and other buildings; and acquired additional land from the state and a developer over the next 10 years to create a township park of about 94 acres. In recent years it has been widely used by the public. Along with serving as a focal point for the park, Oakbourne Mansion is home to four craft shows a year, and the park hosts meetings, concerts, private banquets, and a variety of other public events. The roads and trails are used daily by workers, joggers, nature enthusiasts, family picnickers, and older folks for pleasurable outings.

In our six days of field work, we talked to a number of trail users, all of whom are “regulars” at Oakbourne, some who visit three or four times a week. The large size of the Park and its trails permit these folks to have a mostly private outdoor experience. This 94-acre Park and its nearly 50 acres of woods, plus the Copeland Tract across the Road, are a unique resource in a rapidly urbanizing area. We are sure the public and residents wholeheartedly agree that these tracts need to be kept in a healthy and natural situation. There are few such public areas like Oakbourne in the nearby vicinity.

GREEN LINE CONSULTANTS

Oakbourne Park Westtown Township

Part 2 — BRIEF FOREST DESCRIPTION

Background

The forests of the Oakbourne Park are typical of those called "Eastern Mesophytic Hardwood Forests." Mesophytic meaning "**well balanced moisture**." This type of forest is considered to be one of the most biologically diverse in the nation. They forests are characterized by a broadly diverse collection of tree species and a full range of age/size classes from seedlings to mature older trees. But, because tree and plant communities are in constant change, the present Oakbourne forests do not closely resemble what was here 320 years ago in William Penn's time (1682). Nevertheless, many of those same species are still present, and in sufficient numbers (even though presently threatened by increased human activities) to be able to define what needs to be done to keep them healthy and growing. The specific data gathered and compiled are shown in the **APPENDIX D — Woodland Analysis**.

With a few exceptions, these Oakbourne forests are relatively young, probably most having their beginnings not more than 120-130 years ago, perhaps about the time the Mansion was built. We know this from several clues:

- an actual tree ring growth count made on a large downed tree log along Old Colony Road by the Run from the pond;
- known growth rates of the dominant forest tree in the Park (**yellow-poplar**);
- and the conditions that are necessary for **yellow-poplar** to become established and grow to dominance.

What follows is a careful reading of the sampling data. Historical records, known or available, may show this to be incorrect, but our best feeling is that this forest had its beginnings on cleared or mostly open lands about 120-130 years ago.

There were a few scattered, large white and black oaks here and there at that time. The largest of these "survivors" are a **white oak** (48 inches in diameter), and an equally large **black oak** both located along the western property boundary not far North of East Pleasant Grove Road. Both trees are probably "pushing" 225 - 250 years of age. There were ten trees sampled in the **Pleasant Grove Tract** that were over 40 inches in diameter.

Current Situation

The "far-and-away" dominant tree of the present forest is the **yellow-poplar**, comprising 59% of all the trees present and living (see **APPENDIX D — Woodland Analysis**). It is the tallest Eastern forest tree (up to 150 ft.) and will live in excess of 200 years. **Yellow-poplar** is very intolerant of shade, so in order for it to become established, grow, and become dominant, it must have nearly full sunlight. Thus our feelings that this present forest got its start on open land.

The second most numerous tree is the **Norway maple** (14%), a non-native, shade-tolerant, and a very aggressive invader. If not controlled, it can, over time, eventually take-over stands to the detriment of desirable natives. Such an event would also greatly adversely affect the biological diversity of the area. Not only would one tree species dominate the area but also all other flora and fauna would be affected.

The other members of the top five are **white ash**, **white oak**, and **mockernut hickory**, all desirable native trees common to these Eastern Forests.

The trees of the Oakbourne Forests:

Five (5) **species** comprise 87% of all the trees now present.

Yellow- poplar
Norway maple
White ash
White oak
Mockernut hickory

Sixteen (16) **species** present comprise only 13% of the stand composition.

(See **APPENDIX D — Woodland Analysis**.)

Tracts Inventoried

For ease in sampling, and to help determine whether there are differences within the Oakbourne forests, the Consultant arbitrarily designated three different tracts for sampling and study. They are:

Main Tract — (16.5 acres) bounded by Concord Road; Oakbourne Road; the entrance to the Mansion; and Old Colony Road.

Pond-West Tract — (22.1 acres) bounded by Old Colony Road on the East and the balance of the forest West of that road to the property boundaries and up to the Picnic Shelter.

Pleasant Grove Tract— (10.6 acres) balance of the forested areas South of the Gaudenzia property and North of East Pleasant Grove Road.

A total of **49.2 acres** (more or less) of native forest, or about 52% of Oakbourne Park, is now forested West of South Concord Road.

Similarities and Differences

An examination of the data in the **Woodland Analysis APPENDIX D — Tract Comparisons** shows that, for the most part, almost all of the Oakbourne Forest Tracts had their beginnings at about the same time; have the same mature species present; and, with the exception of several large white oak trees, have similar average diameters within the species. Some differences do occur between tracts, however, some of these are:

- **Two small groups of younger, rapidly growing yellow-poplar** — one Northwest of the Pond (**Pond-West Tract**) and the other North and East of the unimproved road that winds through the **Pleasant Grove Tract**.
- **Invasive Plants** — Laurie Albrecht (Longwood Gardens) spoke of the profusion of the invasive plants on the Oakbourne property. The great majority of these are North of the Entrance Road to the Mansion in the **Main Tract**. This is not surprising, given that this is the site of much human activity and that some of the worst non-native invasives (**black jetbead, pachysandra, and Norway maple**) were originally planted as ornamentals around the Mansion. For a complete listing of these invasive plants and their location see the APPENDIX D — **Woodland Analysis**.
- **Hazard Trees** — Most all of the trails presently used by the public are located in the **Main Tract** and a cursory examination showed some **Hazard Trees** along these trails. **This plan does not deal with hazard trees in detail**, except to point out that some hazard trees were noticed during the inventory. A study should be done soon with corrective action taken as needed to remove any hazards related to trees trees.

Photographs of **some** hazard trees that were noted during the inventory in Oakbourne Park are shown in the **APPENDIX F — Hazard Trees Observed**. There are also a few dangerous trees in the Arboretum, along the paved road, and unimproved roads that could harm Park visitors, Park staff, mowing contractors, and property.

Size and Age Classes Ranges Are Limited

As mentioned earlier, one of the key characteristics of an Eastern Mesophytic Hardwood Forest is a full range of age/size classes present. As is the case in most other Southeast Pennsylvania forests, this attribute is lacking in Oakbourne Forest Tracts.

The regeneration plot data (**APPENDIX D — Woodland Analysis**) show that there are almost no desirable native tree seedlings now present and growing. And the plot data show that saplings and small pole sizes (up to 5 inches in diameter) are also lacking. This is due to a number of factors including: too many white-tailed deer present; periodic defoliation by Gypsy Moth and other insect larva; heavy concentrations of invasive non-native plants which take-over and crowd out desirable native species; and earlier cutting practices which may have eliminated some tree seed sources. This need to build a better stand structure will be dealt with in the **Recommendations**.

By and large, the present forest is healthy, and growing well on very productive **Glenelg channery** silt loam soils. This soil is among the best in Southeast Pennsylvania for growing trees. The stands are FULLY STOCKED to OVERSTOCKED, so there are plenty of trees present. For the long-term health and vigor of the forest, two things need to be done during the next decade:

1. **Control the invasive plants.** The non-native invasive plants are now a real and growing problem.
2. **Plant shade-tolerant native trees.** After invasive plant control is accomplished, begin to under-plant the stand with shade-tolerant desirable native trees (see **APPENDIX I — Pennsylvania Native Shade-Tolerant Trees**) to begin to build the stand-structure (seedlings/saplings/small poles) now lacking. At the same time, introduce (by plantings) some of the tree species not now present (i.e. oaks, hickories, beech, holly, etc.) to enhance the stand composition to build an even more diverse plant community.

And, for the **immediate protection of people and property** two additional things need to be done:

1. **Identify and remove hazard trees.** As soon as possible, identify, mark, and remove those trees or tree parts deemed to be hazardous in the areas of public use (along trails, roads, parking, Arboretum, and Mansion areas). This must be done to protect visitors, staff and other workers and limit/remove potential Township liability that hazardous trees might pose on this property. (See **APPENDIX F — Hazard Trees — A Reason for Concern**)
2. **Control trash dumping.** As might be expected, there is also some trash being deposited in Oakbourne forests, not yet serious, but, if unchecked, could reach much larger proportions. Studies show that presence of trash encourages more trash dumping. **Trash Begets Trash.** Most of the trash we observed is along the road through the **Pleasant Grove Tract** and along western boundary of the **Pleasant Grove Tract**, behind the homes on Kerwood Road. Debris ranged from piles of grass clippings to old tires; cinder blocks and bricks; discarded cans and tubs; a rusted wheelbarrow, one-half a fiberglass hot tub, and a mailbox, metal chairs, fencing, bed springs, to a smashed ceramic toilet, sewer tiles, teeter-totter and a rusted power lawn mower without a handle. A hot water tank and a washing machine with parts scattered near the trail leading from the Pond to Dogwood Lane. The present accumulation has grown over time, but could be easily cleaned up in a day or so. See **APPENDIX G — Photos—Trash Accumulation**.

Species of Special Concern

No **threatened or endangered** plant or animal species, as far as is known and observed, is present on the property. Care was taken during the fieldwork to look for any such specimens. See **APPENDIX E — Vegetation Observed in Tracts** for a complete listing of all plant species as tallied or observed.

At a meeting on February 12, 2002, Laurie Albrecht, (Longwood Gardens), spoke of the proliferation of **Invasive Plants** on Oakbourne, and mentioned the following species:

Common Name	Scientific Name	Common Name	Scientific Name
Barberry, Japanese	<i>Berberis thunbergii</i>	Maple, Norway	<i>Acer platanoides</i>
Bittersweet, Oriental	<i>Celastrus orbiculatus</i>	Mile-a-Minute Vine	<i>Polygonum perfoliatum</i>
Fern, Hay-scented	<i>Dennstaedtia punctilobula</i>	Mustard, Garlic	<i>Alliaria petiolata</i>
Jetbead, black	<i>Rhodotypos scandens</i>	Olive, Autumn	<i>Elaeagnus umbellata</i>
Knotweed, Japanese	<i>Polygonum cuspidatum</i>	Pachysandra	<i>Pachysandra terminalis</i>
Knotweed, Giant	<i>Polygonum sachalinense</i>	Rose, Multiflora	<i>Rosa multiflora</i>
Magnolia, Umbrella	<i>Magnolia tripetala</i>	Stiltgrass, Japanese (Packing Grass)	<i>Microstegium vimineum</i>

In our six days of field investigations in the forested tracts, we observed all of the above invasive plants. The **Umbrella Magnolia** and the **Hay-scented Fern** are both native species and do not pose a concern to the health and viability of the Oakbourne forest.

Worst Invasive Non-native Plants

Invasive non-native plants are a problem in the forested tracts at Oakbourne Park. **Presently, the six plants most troublesome and numerous are these:**

Common Name	Scientific Name	Common Name	Scientific Name
Jetbead, Black	<i>Rhodotypos scandens</i>	Maple, Norway	<i>Acer platanoides</i>
Knotweed, Japanese	<i>Polygonum cuspidatum</i>	Mustard, Garlic	<i>Alliaria petiolata</i>
Knotweed, Giant	<i>Polygonum sachalinense</i>	Pachysandra, Japanese	<i>Pachysandra terminalis</i>

All of these must be dealt with soon and most certainly within the next 3 years. If these invasive species are not managed, the forest will be adversely affected, not only in species diversity, but also in size class distribution, loss of scenic diversity, and loss of biological diversity.

When biological diversity is affected adversely, the rich numbers and variety of flora and fauna will be adversely affected. In simple terms— without control of invasives, eventually there will be fewer numbers and less variety of native mammals, birds, insects, wildflowers, shrubs, trees, and other creatures and plants at Oakbourne Park. See **APPENDIX H — Control of Invasive Plants**.

Oakbourne Park

Part 3 — ARBORETUM

Originally, the **Forest and Tree Stewardship Plan** was to be limited to the native forests on the property. But once the inventory began and after talking with Township Roadmaster Mark Gross, the Consultants realized that the **Arboretum** was a unique historical collection of trees. Apparently no record exists that lists the names of all the trees in the Arboretum on the greater Mansion grounds. Therefore we inventoried the Arboretum trees, recorded their names, and made a standard Arboretum grid map similar to the one used by **Scott Arboretum at Swarthmore College**. We noted the locations of the trees in a system of 250-foot square grid map.

See **APPENDIX J — Arboretum Map** and **APPENDIX K — List of Trees in the Arboretum**.

It is apparent that the Arboretum is a fine contemporary and historical resource for the Township. It is available for people who are interested in seeing how different trees might look in their yards, for observing which birds frequent which species of trees, or studying how to identify trees by their leaves, bark, or other features.

A total of **192 trees**, representing **59 tree species**, were inventoried in the Arboretum.

Once the new entrance road is completed, there is a fine opportunity to expand the number of trees and species in the Arboretum. There is adequate space to add many native trees, non-invasive exotic trees, and flowering trees to the grounds while preserving outdoor recreation opportunities. The unique resource provides a potential opportunity to provide educational programs, tours, brochures, and environmental training sessions associated with the present or expanded Arboretum. It is sure to be of interest to many visitors especially if the trees are identified by nametags.

Recommendations for the Arboretum

- **Place Arboretum style nametags*** with common and scientific names on each of the trees on the greater Mansion grounds.
(*Nametags are approx. 3" x 5" — anodized aluminum, attached to the tree trunk with stainless steel screws equipped with springs allowing for tree growth.)
- **Provide an Oakbourne Arboretum Check List Brochure** to interested visitors who wish to check-off trees as they learn to identify the trees by their common and scientific names.
- **Provide a plan for expanding the Arboretum by planting new trees.** For a truly scenic, educational, and an outstanding Arboretum, a **Plan** should be made with these needs in mind:
 - Plant trees in selected areas throughout the Mansion grounds.
 - Add a variety of trees native to SE Pennsylvania and non-invasive exotic trees known to grow and thrive in this USDA Planting Zone.
 - Plant trees to line both sides of the new entrance road in the style of the existing road.
 - Keep areas open for recreation gatherings and sports.
 - Design to provide groupings of trees to reduce the area in need of mowing and excessive maneuvering of the mowing equipment.
 - Reduce areas mowed to help reduce air pollution.

The Consultants would be pleased to bid on the fulfillment of any or all of these recommendations.

Oakbourne Park

Part 4 — RECOMMENDATIONS — ACTIONS — TIMELINES

After six days of fieldwork, walking, and sampling the forests of **Oakbourne Park** and its **Arboretum**, the following actions are clearly needed to begin to restore these forests to a more natural, healthy situation, and to make them safer and more attractive to the visitors, users, nearby residents, and for the Township employees who work in the Park.

Westtown Township Management and Park Board Members should consider these **recommendations** for **Oakbourne Park** and decide on priorities for implementation and the timelines for any **actions** to be taken:

1. **Control the wild grapevine** infestation.
2. **Locate, mark, and remove hazardous trees** and tree parts in all areas used by the public and Township employees.
3. **Control invasive plants** using all appropriate measures that are prescribed by experts and with care to the public users.
4. **Begin underplanting shade-tolerant native trees** (as control of invasives is completed) to begin to rebuild stand structure. (i.e. age/size class distributions.....seedlings, saplings, poles, etc.)

The Consultants believe that the first two actions should begin concurrently and be accomplished **this 2002 – Summer / Fall** and during the **2002 – 2003 Winter** season.

2002 - Summer / Fall & 2002 – 2003 Winter

1. **Control the wild grapevine.** Control infestations to the North and West of the Pond; along the sewer right-of-way from the Pond up to Dogwood Lane; and to the immediate North and East of the unimproved road through the Pleasant Grove Tract. There is evidence of earlier control efforts, but the vines have since re-grown. This should be done by a 2 or 3 person crew (s) using Swedish Bush Axes, (machetes are too dangerous), and treating the “stumps” with ROUNDUP. Probably it will take a good week of work to get this job done.
2. **Locate, mark, and remove hazardous trees.** Employ an experienced Forester/Arborist to locate and mark hazardous trees, tree parts, and situations now present on the property in those area's (trails, roads, parking lots, picnic areas, Mansion) that are in use by the public and Westtown Township employees. A number of such trees were noted during the fieldwork and some photographic examples are provided in the **APPENDIX F**.

The work of locating, marking, and inventorying of the hazardous trees should be done by an expert Forester/Arborist with prior experience in the field. We have done this work and can provide examples of our recent work. There are many others also well qualified. The work of removing hazardous trees and correcting hazardous conditions should be done by an Arborist, Certified by the **International Society of Arboriculture**.

The hazard tree survey is best done prior to leaf-fall when dead trees and branches are easier to locate. Then the pruning and felling necessary can be done in the **2002-2003 Winter** season when there is less public use and the foliage is not a problem. Hazard trees constitute a serious problem that needs to be dealt with as soon as possible.

2003 - Spring —

3. Control invasive plants Arrange for a session with specialist (s) in herbicide use **to control invasive plants** to meet with the Park Board and take a field visit to view the situation at Oakbourne Park. With them, draft a plan of action to begin to control the many invasive plants now present on the property. The **Main Tract** just to the North of the entrance road contains the worst situation and should be dealt with early on. The major “offenders” here are:

Norway maple, black jetbead, pachysandra, and garlic mustard.

In the case of **Norway maple**, there are trees from seedling size up to 28 inches in diameter. Seedlings and saplings up to about 2 inches in diameter can be pulled or wrenched out by hand with weed wrenches. Any stems larger than 2 inches in diameter will need to be either deadened by injection, or cut and the stumps treated. Norway maple is a long-term control problem, especially along trails and other areas receiving heavy public use. Undoubtedly, a public education effort should be undertaken prior to any large control efforts! Norway maple is a fine shade tree along urban streets and in large lawns, but it will eventually take over a native forest in time.

Depending upon the priorities set, budgets, labor, and time available, control could take as long as two or three seasons in each of the three tracts. Some invasives, like **garlic mustard**, will always be present, given the hard seed coats laying over in the soil, and the ubiquitous sources of reinvasion. And as is usually the case with any plant control work, timing is always of the essence. See APPENDIX H for the **Control of Invasive Plants**.

4. Begin underplanting shade-tolerant native trees

Once the control of invasives in any given tract is deemed sufficient, the last stage of forest improvement can begin. This will involve the underplanting of shade-tolerant native trees and shrubs to restore the age/size class situation (i.e. seedlings/saplings/poles, etc.) to as normal a circumstance as possible, as well as introduce a few native species not now present such as:

hollies hornbeam hophornbeam witch-Hazel persimmon

(Refer to APPENDIX I — **Pennsylvania Native Shade-Tolerant Trees and Shrubs** for a more complete list.)

These should be planted at an approximate spacing of:
20' x 25' up to 25' x 25' or about 70-90 trees per acre.

One might ask:

“Why is this necessary when these forests are FULLY STOCKED to OVERSTOCKED?”

The answer is that white-tailed deer and invasive plants have either killed or “smothered” any desirable native tree seedlings; so this planting is necessary to get the next “crop” of young trees started that should have been there already had these circumstances not existed.

Readily visible deer trails and antler rubs indicate a large presence of deer. This makes it necessary to protect these newly planted seedlings from deer browsing. Use 5 ft. white Tubex, or similar product, for the first few years till the new trees emerge from the plastic tubes. A current very rough estimate of cost would likely run about \$5 to \$7 per seedling planted and protected with Tubex, or about \$350 to \$400 per acre when done by Park crews.

The Pennypack Ecological Restoration Trust of Bryn Athyn, PA has been doing this for more than 10 years and probably has the most experience in the rehabilitation of abused native forests. The consultant has worked with them and they are most willing to give advice and counsel on their experiences over the past decade.

Probably — given normal setbacks from time to time — a conservative estimate would be in the 15 to 20 year range to put Oakbourne's Forests back on the road to health and normal circumstances. The Consultants will be glad to be available at any time to answer questions, look at individual situations, and be of whatever help may be needed. Don't hesitate to ask or call for whatever is needed.

Forest and Tree Stewardship Plan

Oakbourne Park

Part 5 —

To the best of our knowledge and capabilities, this Forest Tree Stewardship Plan contains:

- an accurate representation of the landowner's objectives for the property;
- an accurate assessment of the forest resources sampled and present on the Oakbourne Park Property and addressed in the plan;
- management recommendations in keeping with the landowner's interests and abilities, and with consideration of other natural resources present, and public use of this property.


_____ 
Duane L. Green, Registered Professional Forester
GREEN LINE CONSULTANTS
Date

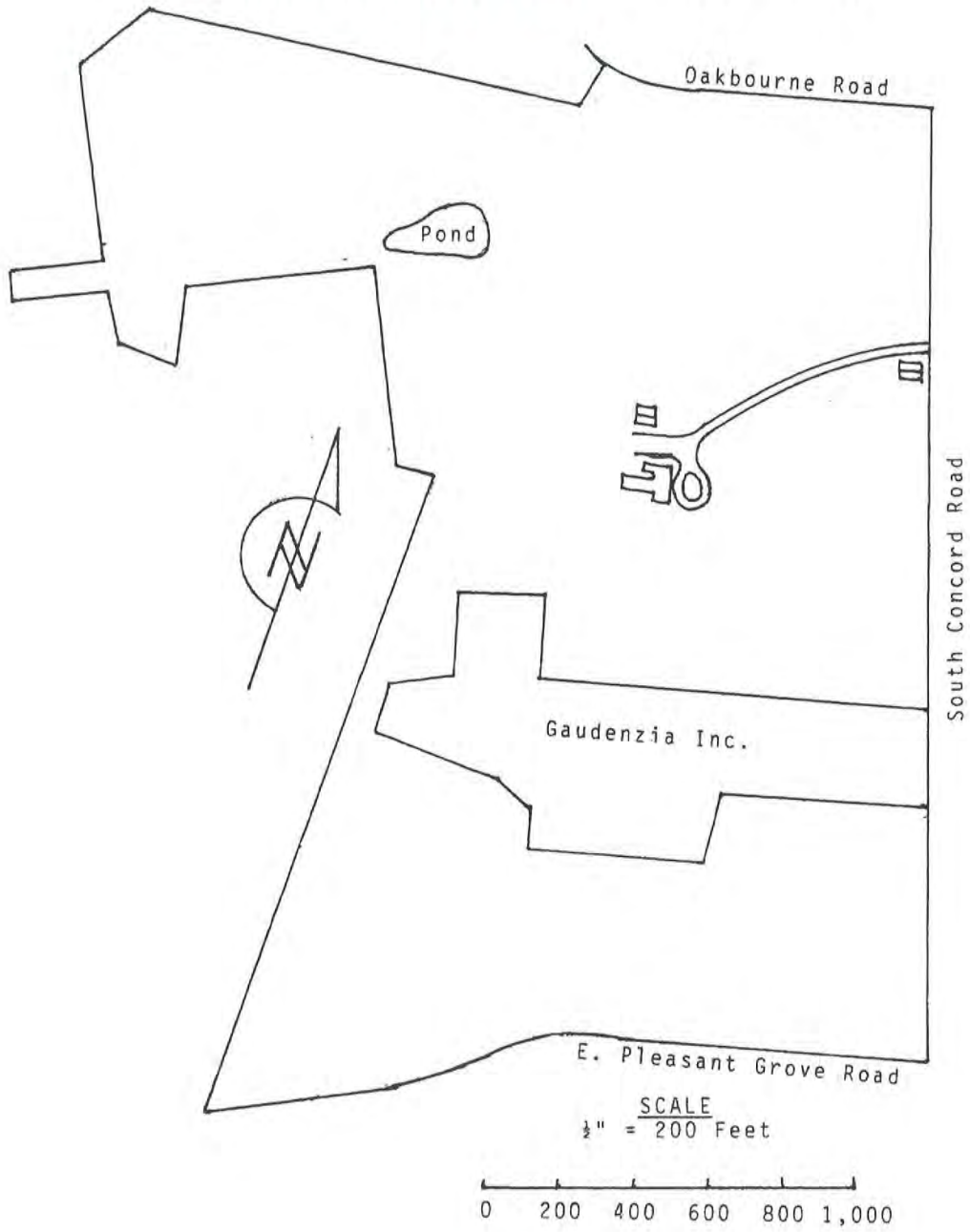
Member of Society of American Foresters
Pennsylvania Council of Professional Foresters
Pennsylvania Forestry Association


_____ 
Charles J. Newton, Certified Forester
Consulting and Education Forester
Date

Member of Society of American Foresters
International Society of Arboriculture
Society of Municipal Arborists

Oakbourne Park
Westtown Township

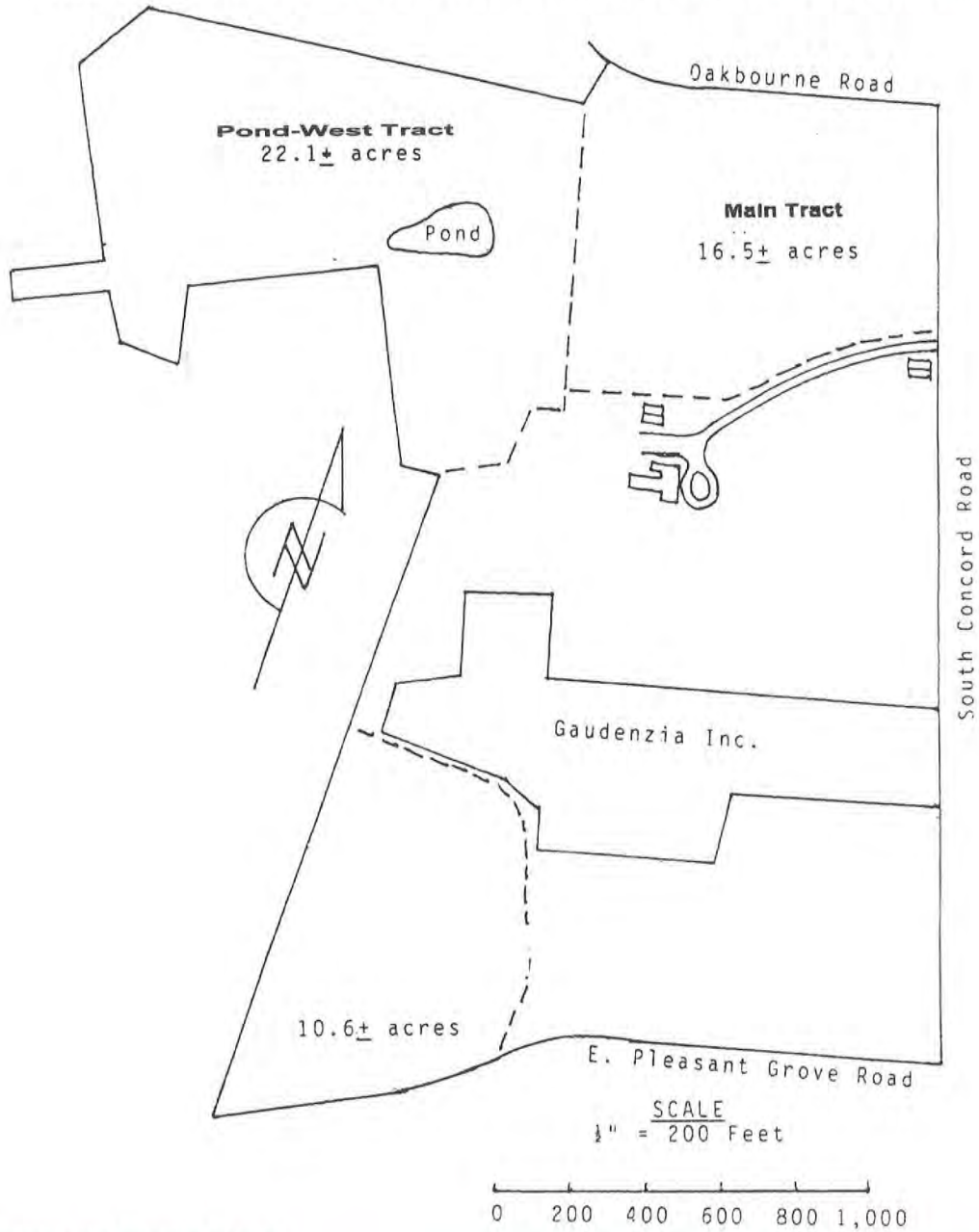
PROPERTY COVERED BY PLAN — APPENDIX A



Oakbourne Park
Westtown Township

SAMPLING UNITS — **APPENDIX B**

A total of **49.2 +** acres of native forest, or about 52% of Oakbourne Park is in forest.



Oakbourne Park
Westtown Township

SOIL DESCRIPTION — APPENDIX C

- CdA - Chester silt loam: 0 to 3% slopes: a nearly level soil with a deep profile; slightly to moderately eroded; moderately fertile; an excellent soil for tree growth.
- Ch - Chewacla silt loam: a deep, moderately well-drained soil that occurs along streams & made up of sediments washed down from uplands; mostly free from stones; subject to occasional flooding, it is fair to good for tree growth.
- GeB - Glenelg channery*silt loam: 3 to 8% slopes: a moderately deep well-drained soil of the uplands; permeability & fertility are moderate; this soil & the five other Glenelg soils that follow are excellent for tree growth & all are well-suited for growing Red Oak; White Oak; Black Oak; Yellow Poplar & Hickories.
- GeB2 - Glenelg channery*silt loam: 3 to 8% slopes; moderately eroded; same description as the above soil, but with slightly less top soil; grows all of the trees listed above (GeB) plus Walnut.
- GeC - Glenelg channery*silt loam: 8 to 15% slopes; very similar to the GeB soil listed above except steeper slopes; grows all of the trees listed above for the Glenelg soils.
- GeC2 - Glenelg channery*silt loam: 8 to 15% slopes: moderately eroded; same description as the above GeC soil, but with less topsoil; grows all of the trees listed above.
- GeC3 - Glenelg channery*silt loam: 8 to 15% slopes: severely eroded: the entire profile of this soil is shallow as a result of much erosion; gullies 1 to 3 feet deep can be common; due to the loss of much topsoil, it grows trees listed above, but growth rates are not as great as the four Glenelg soils listed above.
- GeD3 - Glenelg channery*silt loam: 15 to 25% slopes: severely eroded: the entire profile of this soil is shallow as a result of much erosion: shallow gullies can be common in some area's: Grows all of the above trees, but with reduced growth rates.
- MhE3 - Manor loam & channery*loam: 25 to 35% slopes: this soil is described as shallow to very shallow over bedrock; 40% to 60% of the soil profile is fragments of rock; it is steep, low in fertility & droughty; fair to poor for tree growth with wind-throw as a continual problem.

Oakbourne Park is blessed with a great preponderance of Glenelg soils, among the very best for tree growth in SE Penna. An Oak, growing on these soils should be at least 75' tall at age 50. Yellow Poplar, the dominant tree now present, will do even better. Excellent sites!!

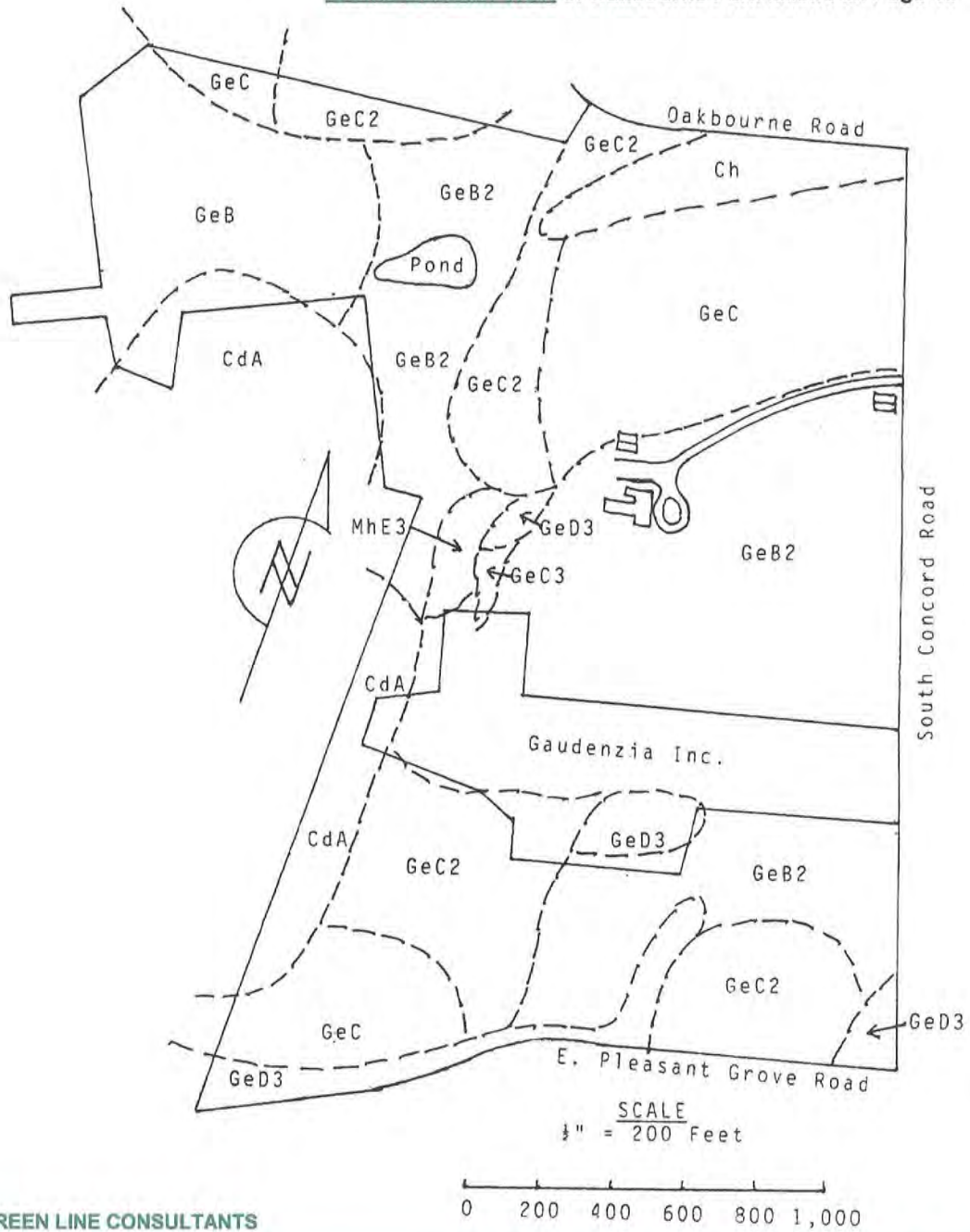
- * The term "channery" is best described as a soil containing thin, flat fragments of sandstone, limestone, or schist as much as six (6) inches along the longer axis. A single piece is called a "chanter."

Oakbourne Park
Westtown Township

SOILS MAP — APPENDIX C

Chester and Delaware Counties, PA — Map # 46

SOILS DESCRIPTION of Oakbourne Park follows on Page 15



GREEN LINE CONSULTANTS

Oakbourne Park

WOODLAND ANALYSIS — APPENDIX D

MAIN TRACT

16.5 acres

Yellow-Poplar — Norway Maple — White Oak — Mockernut Hickory

Total number of plots — **22 variable radius Prism plots** (10 factor).

Total number of trees tallied — **253 trees**.

Average Basal Area/acre = **115 sq. ft.**, ie. $253 \div 22 = 11.5 \times 10 = 115$ sq. ft.

Average diameter of all trees tallied = **18.90" @ dbh.**

ie. $4,781$ diameter inches $\div 253 = 18.897''$ in diameter @ breast height (dbh).

Diameter range of all trees tallied — from **2" to 39" @ dbh.**

Overall Stand Stocking Level = **FULLY STOCKED (88%)** according to the Upland Central Hardwood Stocking Guide, or about 60 trees per acre.

SPECIES OCCURRENCE	% of TOTAL	AVERAGE DIAMETER	RANGE
YELLOW POPLAR (121)	48%	20.56"	8" to 38"
NORWAY MAPLE (49)	19%	11.59"	2" to 28"
WHITE OAK (25)	10%	29.04"	19" to 35"
MOCKERN. HICKORY (11)	4%	17.82"	12" to 28"
WHITE ASH (11)	4%	16.09"	12" to 22"
RED MAPLE (8)	3%	14.00"	10" to 22"
BASSWOOD (LINDEN) (5)	2%	23.40"	16" to 27"
BEECH (3)	1%	25.33"	16" to 35"
BLACK WALNUT (3)	1%	22.33"	13" to 27"
NORWAY SPRUCE (3)	1%	18.33"	11" to 31"
BLACK OAK (3)	1%	13.33"	10" to 17"
SHAGBARK HICKORY (3)	1%	11.33"	6" to 20"
BLACK GUM(TUPELO) (2)	<1%	16.00"	12" to 20"
PAULOWNIA (2)	<1%	14.00"	12" to 16"
SYCAMORE (1)	<1%	16.00"	16"
JAP. FALSE-SAWARA (1)	<1%	20.00"	20"
N. RED OAK (1)	<1%	23.00"	23"
BLACK CHERRY (1)	<1%	6.00"	6"
18 Species (253)	100%	18.90"	2" to 38"

STAND STRUCTURE BY SIZE CLASSES:

Size Class	#	% of Total	Average Diameter	Range
<11" dbh	40	16%	7.70"	2" to 10"
11" to 20" dbh	119	47%	16.21"	11" to 20"
>20" dbh	94	37%	27.39"	21" to 38"
Totals	253	100%	18.90"	2" to 38"

REGENERATION:

Twentytwo (22) milacre (1/1,000 acre) regeneration plots were taken at each plot center. Thirtyone (31) plant species were tallied in the understory, and a listing of these follows:

MAIN TRACT

<u>PLANT SPECIES</u>	<u>NUMBER TALLIED</u>	<u>PER ACRE BASIS</u>
May Apple	241	10,953/acre
Wood's Violet	114	5,181
Garlic Mustard	78	3,545
Black Jet Bead	50	2,273
Norway Maple	41	1,863
Wild Sarsaparilla	38	1,727
Virginia Creeper	34	1,545
White Ash	25	1,136
Spicebush	19	864
Jewelweed	18	818
Cherry species	17	773
Skunk Cabbage	12	545
Honeysuckle	9	409
Trillium	9	409
False Solomon's Seal	8	364
Poison Ivy	8	354
Strawberry	7	318
Raspberry	6	273
Columbine	6	273
Unknown	6	273
Rose species	4	182
Umbrella Magnolia	4	182
Southern Arrowwood	4	182
Beech	3	136
"Mile-a-Minute" weed	2	91
"Hay-Scented" fern	2	91
Hydrangea	2	91
Smilax species	1	45
Red Maple	1	45
Basswood (Linden)	1	45
Blueberry species	1	45
31 Species Present	771	35,042/acre

Plus.... in scattered patches, lots of Pachysandra; Jet Bead; Sedges & Grasses present. This tract has the greatest number of non-native invasive plant species present on Oakbourne Park!

Oakbourne Park

WOODLAND ANALYSIS — APPENDIX D

POND-WEST TRACT

22.1 acres

Yellow-Poplar — Norway Maple — White Ash — Eastern White Pine

Total number of plots — **23 variable radius Prism plots** (10 factor).

Total number of trees tallied — **238 trees**.

Average Basal Area/acre = **103 sq. ft.**, ie. $238 \div 23 = 10.32 \times 10 = 103 \text{ sq. ft.}$

Average diameter of all trees tallied = **18.39" @ dbh.**

ie. $4,376 \text{ diameter inches} \div 238 = 18.3865" \text{ @ diameter breast height (dbh).}$

Diameter range of all trees tallied — from **1" to 36" @ dbh.**

Overall Stand Stocking Level = **FULLY STOCKED (78%)** according to the Upland Central Hardwood Stocking Guide, or about 56 trees per acre.

<u>SPECIES OCCURRENCE</u>	<u>% of TOTAL</u>	<u>AVERAGE DIAMETER</u>	<u>RANGE</u>
YELLOW POPLAR (174)	73%	20.22"	4" to 36"
NORWAY MAPLE (17)	7%	9.41"	1" to 20"
WHITE ASH (14)	6%	14.28"	6" to 24"
EAST. WHITE PINE (13)	6%	16.30"	12" to 20"
MOCKERN. HICKORY (6)	3%	13.50"	8" to 20"
BEECH (2)	1%	14.50"	11" to 18"
BLACK CHERRY (2)	1%	11.50"	10" to 13"
RED MAPLE (2)	1%	8.00"	2" to 14"
SYCAMORE (2)	1%	31.50"	31" to 32"
WHITE OAK (1)	<1%	22.00"	22"
N. RED OAK (1)	<1%	22.00"	22"
BLACK OAK (1)	<1%	23.00"	23"
BLACK GUM(TUPELO) (1)	<1%	10.00"	10"
SASSAFRAS (1)	<1%	3.00"	3"
HONEYSUCKLE BUSH (1)	<1%	3.00"	3"
<u>15 Species (238)</u>	<u>100%</u>	<u>18.39"</u>	<u>1" to 36"</u>

STAND STRUCTURE BY SIZE CLASSES:

<u>Size Class</u>	<u>#</u>	<u>% of Total</u>	<u>Average Diameter</u>	<u>Range</u>
<11" dbh	23	10%	6.13"	1" to 10"
11" to 20" dbh	142	59%	16.53"	11" to 20"
>20" dbh	73	31%	25.10"	21" to 36"
<u>Totals</u>	<u>238</u>	<u>100%</u>	<u>18.39"</u>	<u>1" to 36"</u>

REGENERATION:

Twentythree (23) milacre (1/1,000acre) regeneration plots were taken at each plot center. Twentythree (23) plant species were tallied in the understory, and a listing of these follows:

POND-WEST TRACT

<u>PLANT SPECIES</u>	<u>NUMBER TALLIED</u>	<u>PER ACRE BASIS</u>
Garlic Mustard	378	16,431/acre
Wood's Violet	242	10,519
Strawberry	195	8,476
Jewelweed	180	7,824
Spicebush	52	2,260
Honeysuckle (vine)	52	2,260
Trillium	26	1,130
Rose species	23	999
Raspberry	21	912
Smilax species	18	782
Honeysuckle (bush)	18	782
Poison Ivy	15	652
Unknown	13	565
May Apple	12	521
Virginia Creeper	10	435
Wild Sarsaparilla	5	217
Columbine	3	130
Norway Maple	2	87
Clover	2	87
False Solomon's Seal	2	87
Southern Arrowwood	1	44
Cherry species	1	44
<u>Northern Bedstraw</u>	<u>1</u>	<u>44</u>
23 species	1,272	55,293/acre

There is also one large area infested with Grape vines in need of relief by vine removal!!

Oakbourne Park

WOODLAND ANALYSIS — APPENDIX D

PLEASANT GROVE TRACT

10.6 acres

Yellow-Poplar — Norway Maple — Mockernut Hickory — White Ash

Total number of plots — **13 variable radius Prism plots** (10 factor).

Total number of trees tallied — **188 trees**.

Average Basal Area/acre = **145 sq. ft.**, ie. $188 \div 13 = 14.46 \times 10 = 145$ sq. ft.

Average diameter of all trees tallied = **19.00" @ dbh**.

ie. $3,573$ diameter inches $\div 188 = 19.00$ " @ diameter breast height (dbh).

Diameter range of all trees tallied — from **2" to 57" @ dbh**.

Overall Stand Stocking Level = **FULLY STOCKED (100% +)** according to the Upland Central Hardwood Stocking Guide, or about 74 trees per acre.

<u>SPECIES OCCURRENCE</u>	<u>% of TOTAL</u>	<u>AVERAGE DIAMETER</u>	<u>RANGE</u>
YELLOW POPLAR (104)	55%	21.56"	6" to 57"
NORWAY MAPLE (32)	17%	11.47"	5" to 19"
MOCKERN. HICKORY (13)	7%	15.31"	5" to 28"
WHITE ASH (10)	5%	15.50"	12" to 28"
BLACK CHERRY (6)	3%	15.67"	8" to 24"
JAP. FALSE-SAWARA (5)	3%	14.60"	11" to 18"
WHITE OAK (4)	2%	40.50"	31" to 48"
EAST. WHITE PINE (4)	2%	16.50"	10" to 20"
BLACK WALNUT (3)	2%	16.00"	12" to 22"
N. RED OAK (2)	1%	30.50"	12" to 49"
BIRD CHERRY (2)	1%	12.50"	12" to 13"
BLACK OAK (1)	<1%	48.00"	48"
BASSWOOD (LINDEN) (1)	<1%	14.00"	14"
HONEYSUCKLE BUSH (1)	<1%	2.00"	2"
<u>14 Species</u>	<u>(188)</u>	<u>100%</u>	<u>2" to 57"</u>

STAND STRUCTURE BY SIZE CLASSES:

<u>Size Class</u>	<u>#</u>	<u>% of Total</u>	<u>Average Diameter</u>	<u>Range</u>
<11" dbh	37	20%	7.86"	2" to 10"
11" to 20" dbh	91	48%	14.34"	11" to 20"
>20" dbh	60	32%	32.48"	21" to 57"
<u>Totals</u>	<u>188</u>	<u>100%</u>	<u>19.00"</u>	<u>2" to 57"</u>

REGENERATION:

Thirteen (13) milacre (1/1,000 acre) regeneration plots were taken, one at each plot center. Nineteen (19) plant species were tallied in the understory, and a listing of these follows:

PLEASANT GROVE TRACT

<u>PLANT SPECIES</u>	<u>NUMBER TALLIED</u>	<u>PER ACRE BASIS</u>
Wood's Violet	293	22,538/acre
Jewelweed	243	18,692
Garlic Mustard	181	13,923
Trillium	35	2,692
Pachysandra	33	2,538
Virginia Creeper	19	1,461
Honeysuckle, Bush	15	1,154
Poison Ivy	15	1,154
Honeysuckle, Vine	12	923
Raspberry	7	538
Smilax species	7	538
Cherry species	6	462
Wild Sarsaparilla	6	462
Wild Grapevine	5	385
Strawberry	3	231
Columbine	3	231
May Apple	2	154
Yellow Poplar	1	77
False Solomon's Seal	1	77
<u>19 Species</u>	<u>887</u>	<u>68,228/acre</u>

Just to the North & East of the unimproved road that winds through this tract, is a large area infested with Grapevines that badly needs relief before all of the young Yellow Poplars are killed. Also, much trash & rubbish dumped along this road & on the western portion of this tract. Some of the largest & oldest trees on Oakbourne Park are located along the western boundary of this tract!!

Oakbourne Park

WOODLAND ANALYSIS — APPENDIX D

TRACT COMPARISONS FOR THE TOP FIVE SPECIES PRESENT

These tract comparisons were made, using the top five species present, to ascertain whether the present forest at Oakbourne had its beginnings at different times.

The average diameters of **Yellow Poplar**, which is the dominant tree now at Oakbourne, show pretty conclusively that this forest had its beginnings all at the same time, probably not to exceed 120 to 130 years ago on mostly open lands.

The large **White Oaks** are survivors from an earlier age, some of them well over 200 years of age.

The **Norway Maples** present are shade-tolerant, invasive non-natives that are, even now, invading the present forest. They will need to be controlled, or else they will eventually out-compete most desirable native tree species.

I. Number of Trees Tallied:

SPECIES	"MAIN"	"POND-WEST"	"PLEASANT GROVE"	TOTALS
YELLOW POPLAR	121	174	104	399 (59%)
NORWAY MAPLE	49	17	32	98 (14%)
WHITE ASH	11	14	10	35 (5%)
WHITE OAK	25	1	4	30 (+4%)
MOCKERNUT HICKORY	11	6	13	30 (+4%)
"TOP FIVE"	217	212	163	592 (87%)

II. Average Diameters:

	"MAIN"	"POND-WEST"	"PLEASANT GROVE"	AVERAGE ALL TRACTS
YELLOW POPLAR	20.56"	20.22"	21.56"	20.73"
NORWAY MAPLE	11.59"	9.41"	11.47"	11.17"
WHITE ASH	16.09"	14.28"	15.50"	15.20"
WHITE OAK	29.04"	22.00"	40.50"	30.33"
MOCKERNUT HICKORY	17.82"	13.50"	15.31"	15.87"
"TOP FIVE-AVERAGES"	19.15"	18.88"	19.17"	19.06"

Oakbourne Park

APPENDIX E

VEGETATION OBSERVED IN TRACTS



Norway Maple —
Acer platanoides
Non-native Invasive



White Oak —
Quercus alba

Record of Vegetation Observed in Tracts

In the process of collecting data, where the Consultants recorded all species in the Sample Plots, all species observed and identified, while traveling through each tract between the Sample Plots, were also recorded

The following pages are a listing of the vegetation we saw and/or measured in each tract.



Red Maple — *Acer rubrum*



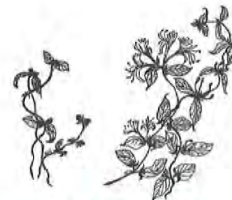
Black Cherry — *Prunus serotina*

MAIN TRACT



Greenbriar —
Smilax sp.

POND-WEST TRACT



Japanese Honeysuckle,
Lonicera japonica
Non-native Invasive

PLEASANT GROVE TRACT

Oakbourne Park

MAIN TRACT — APPENDIX E

VEGETATION OBSERVED on May 20, 2002

Common Name	Scientific Name	Frequency	Native, Non-native or Non-native Invasive
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Trees

Ash, white	<i>Fraxinus americana</i>	Frequent	Native
Basswood, American	<i>Tilia americana</i>	Few	Native
Beech, American	<i>Fagus grandifolia</i>	Few	Native
Sawara, Japanese	<i>Chamaecyparis pisifera</i>	Very few	Non-native
Cherry sp.	<i>Prunus sp.</i>	Few	Native
Cherry, black	<i>Prunus serotina</i>	Very few	Native
Hickory, mockernut	<i>Carya tomentosa</i>	Frequent	Native
Hickory, shagbark	<i>Carya ovata</i>	Few	Native
Locust, black	<i>Robinia pseudoacacia</i>	Few	Native
Magnolia, umbrella	<i>Magnolia tripetala</i>	Frequent	Native
Maple, Norway	<i>Acer platanoides</i>	Frequent	Non-native
Maple, red	<i>Acer rubrum</i>	Frequent	Native
Oak, black	<i>Quercus velutina</i>	Very few	Native
Oak, northern red	<i>Quercus rubra</i>	Very few	Native
Oak, white	<i>Quercus alba</i>	Frequent	Native
Paulownia, Royal	<i>Paulownia tomentosa</i>	Very few	Non-native
Persimmon, common	<i>Diospyros virginiana</i>	Very few	Native
Spruce, Norway	<i>Picea abies</i>	Few	Non-native
Sycamore	<i>Platanus occidentalis</i>	Very few	Native
Tupelo, black (black gum)	<i>Nyssa sylvatica</i>	Very few	Native
Walnut, black	<i>Juglans nigra</i>	Very few	Native
Yellow-poplar	<i>Liriodendron tulipifera</i>	Very frequent	Native

Shrubs

Arrowwood, southern	<i>Viburnum dentatum</i>	Frequent	Native
Blueberry sp.	<i>Vaccinium sp.</i>	Few	Native
Honeysuckle, bush	<i>Lonicera sp.</i>	Frequent	Native and Non-native Invasive
Jetbead, black	<i>Rhodotypos scandens</i>	Frequent	Non-native Invasive
Sarsaparilla, wild	<i>Aralia nudicaulis</i>	Frequent	Native
Spicebush, common	<i>Lindera benzoin</i>	Frequent	Native
Viburnum, maple leaf	<i>Viburnum acerifolium</i>	Frequent	Native

Vines

Grape, wild	<i>Vitis sp.</i>	Frequent	Native
Greenbriar sp.	<i>Smilax sp.</i>	Few	Native
Honeysuckle sp.	<i>Lonicera sp.</i>	Frequent	Native and Non-native Invasive
Ivy, poison	<i>Toxicodendron radicans</i>	Few	Native
"Mile-a-Minute" vine	<i>Polygonum perfoliatum</i>		
Raspberry, flowering	<i>Rubus odoratus</i>	Frequent	Native
Rose sp.	<i>Rosa sp.</i>	Few	Native
Virginia creeper	<i>Parthenocissus quinquefolia</i>	Frequent	Native

MAIN TRACT

Common Name	Scientific Name	Frequency	Native, Non-native or Non-native Invasive
Wildflowers			
Cabbage, skunk	<i>Symplocarpus foetidus</i>	Frequent	Native
Celandine, lesser	<i>Ranunculus ficaria</i>	Very few	Non-native invasive
Columbine, wild	<i>Aquilegia canadensis</i>	Few	Native
Jewelweed	<i>Impatiens capensis</i>	Very frequent	Native
Mayapple	<i>Polyphyllum peltatum</i>	Very frequent	Native
Mustard, garlic	<i>Alliaria petiolata</i>	Very frequent	Non-native invasive
Soloman's seal, false	<i>Smilacena racemosa</i>	Few	Native
Spring beauty	<i>Claytonia virginica</i>	Very frequent	Native
Strawberry, wild	<i>Fragaria virginiana</i>	Frequent	Native
Unknowns (6)	<i>Genus and species unknown</i>	Few	Native and Non-native
Wood-sorrel, violet	<i>Oxalis violaceae</i>	Very frequent	Native

Ground Covers

Pachysandra, Japanese	<i>Pachysandra terminalis</i>	Frequent	Non-native Invasive
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Ferns

Fern, Christmas	<i>Polystichum acrostichoides</i>	Few	Native
Fern, hay-scented	<i>Dennstaedtia punctilobula</i>	Few	Native, invasive

Mosses

Clubmoss sp.	<i>Lycopodium sp.</i>	Frequent	Native
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Common and scientific names are according to:

- A Field Guide to Wildflowers NE and NC America* Roger T. Peterson and Margaret McKenny; Houghton Mifflin.
- Atlas of the Flora of Pennsylvania*, Wherry, Frogg, and Wahl; The Morris Arboretum of the Univ. of Pennsylvania.
- Audubon Society Field Guide to North American Wildflowers Eastern Region*, William A. Niering; A. Knopf.
- Checklist of United States Trees*, Elbert L. Little Jr.; USDA Forest Service.
- Manual of Woody Landscape Plants*, Michael A. Dirr; University of Georgia.
- Newcomb's Wildflower Guide*, Laurence Newcomb; Little Brown and Co.
- Shrubs and Vines for Northeastern Wildlife*, Northeastern Forest Experiment Station; USDA Forest Service

Oakbourne Park

POND-WEST TRACT — APPENDIX E

VEGETATION OBSERVED on May 23, 2002

Common Name	Scientific Name	Frequency	Native, Non-native or Non-native Invasive
Trees			
Ash, white	<i>Fraxinus americana</i>	Frequent	Native
Beech, American	<i>Fagus grandifolia</i>	Few	Native
Cherry, black	<i>Prunus serotina</i>	Few	Native
Cherry sp.	<i>Prunus sp.</i>	Very few	Native
Crabapple sp.	<i>Malus sp.</i>	Very Few	
Elm, American	<i>Ulmus americana</i>	Few	Native
Hickory, mockernut	<i>Carya tomentosa</i>	Frequent	Native
Maple, Norway	<i>Acer platanoides</i>	Frequent	Non-native
Maple, red	<i>Acer rubrum</i>	Few	Native
Oak, black	<i>Quercus velutina</i>	Very few	Native
Oak, northern red	<i>Quercus rubra</i>	Few	Native
Oak, white	<i>Quercus alba</i>	Few	Native
Pine, eastern white	<i>Pinus strobus</i>	Few	Native
Sassafras	<i>Sassafras albidum</i>	Very few	Native
Sycamore	<i>Platanus occidentalis</i>	Very few	Native
Tupelo, black (black gum)	<i>Nyssa sylvatica</i>	Very few	Native
Walnut, black	<i>Juglans nigra</i>	Very few	Native
Yellow-poplar	<i>Liriodendron tulipifera</i>	Very frequent	Native
Ash, white	<i>Fraxinus americana</i>	Frequent	Native
Beech, American	<i>Fagus grandifolia</i>	Few	Native
Cherry, black	<i>Prunus serotina</i>	Few	Native
Cherry sp.	<i>Prunus sp.</i>	Very few	Native
Shrubs			
Arrowwood, southern	<i>Viburnum dentatum</i>	Very few	Native
Honeysuckle, bush	<i>Lonicera sp.</i>	Frequent	Native and Non-native Invasive
Rose, multiflora	<i>Rosa multiflora</i>	Few	Non-native Invasive
Rose sp.	<i>Rosa sp.</i>	Few	Native
Sarsaparilla, wild	<i>Aralia nudicaulis</i>	Very Few	Native
Spicebush, common	<i>Lindera benzoin</i>	Frequent	Native
Olive, autumn	<i>Elaeagnus umbellata</i>	Very few	Non-native Invasive
Vines			
Grape, wild	<i>Vitis sp.</i>	Frequent	Native
Greenbriar sp.	<i>Smilax sp.</i>	Few	Native
Honeysuckle sp.	<i>Lonicera sp.</i>	Frequent	Native and Non-native Invasive
Ivy, poison	<i>Toxicodendron radicans</i>	Few	Native
Raspberry, flowering	<i>Rubus odoratus</i>	Frequent	Native
Virginia creeper	<i>Parthenocissus quinquefolia</i>	Few	Native
Grape, wild	<i>Vitis sp.</i>	Frequent	Native
Greenbriar sp.	<i>Smilax sp.</i>	Few	Native

POND-WEST TRACT

Common Name	Scientific Name	Frequency	Native, Non-native or Non-native Invasive
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Wildflowers

Bedstraw, northern	<i>Galium boreale</i>	Very few	Native
Columbine, wild	<i>Aquilegia canadensis</i>	Very Few	Native
Clover sp.	<i>Trifolium sp</i>	Very Few	Native
Jewelweed	<i>Impatiens capensis</i>	Very frequent	Native
Knotweed, Japanese	<i>Polygonum cuspidatum</i>	Few	Non-native
Mayapple	<i>Polyphyllum peltatum</i>	Very frequent	Native
Mustard, garlic	<i>Alliaria petiolata</i>	Very frequent	Non-native Invasive
Soloman's seal, false	<i>Smilacena racemosa</i>	Very Few	Native
Strawberry, wild	<i>Fragaria virginiana</i>	Frequent	Native
Trillium	<i>Trillium sp</i>	Frequent	Native
Unknowns (13)	<i>Genus and species unknown</i>	Few	Native and Non-native
Wood-sorrel, violet	<i>Oxalis violaceae</i>	Very frequent	Native

Grasses

Cattail, common	<i>Typha latifolia</i>	Frequent	Native
Grass sp.		Frequent	Native and non-native
Sedge sp	<i>Carex sp.</i>	Few	Native

Ferns

Fern sp.	<i>Dennstaedtia punctilbula</i>	Few	Native
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Mosses

Clubmoss sp.	<i>Lycopodium sp.</i>	Frequent	Native
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Common and scientific names are according to:

- A Field Guide to Wildflowers NE and NC America* Roger T. Peterson and Margaret McKenny; Houghton Mifflin.
- Atlas of the Flora of Pennsylvania*, Wherry, Frogg, and Wahl; The Morris Arboretum of the Univ. of Pennsylvania.
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- Manual of Woody Landscape Plants*, Michael A. Dirr; University of Georgia.
- Newcomb's Wildflower Guide*, Laurence Newcomb; Little Brown and Co.
- Shrubs and Vines for Northeastern Wildlife*, Northeastern Forest Experiment Station; USDA Forest Service

Oakbourne Park

PLEASANT GROVE TRACT — APPENDIX E

VEGETATION OBSERVED on May 28, 2002

Common Name	Scientific Name	Frequency	Native, Non-native or Non-native Invasive
Trees			
Ash, white	<i>Fraxinus americana</i>	Frequent	Native
Basswood, American	<i>Tilia Americana</i>	Few	Native
Cherry sp.	<i>Prunus sp.</i>	Very few	Native
Cherry, black	<i>Prunus serotina</i>	Few	Native
Cherry, mazzard	<i>Prunus avium</i>	Very few	Non-native
Hickory, mockernut	<i>Carya tomentosa</i>	Frequent	Native
Maple, Norway	<i>Acer platanoides</i>	Frequent	Non-native
Oak, black	<i>Quercus velutina</i>	Very few	Native
Oak, northern red	<i>Quercus rubra</i>	Few	Native
Oak, white	<i>Quercus alba</i>	Few	Native
Pine, eastern white	<i>Pinus strobus</i>	Few	Native
Sawara, Japanese	<i>Chamaecyparis pisifera</i>	Very few	Nonnative
Walnut, black	<i>Juglans nigra</i>	Very few	Native
Yellow-poplar	<i>Liriodendron tulipifera</i>	Very frequent	Native
Shrubs			
Deutzia sp.	<i>Deutzia sp.</i>	Few	Non-native
Honeysuckle, bush	<i>Lonicera sp.</i>	Frequent	Native and Non-native Invasive
Rose sp.	<i>Rosa sp.</i>	Few	Native
Rose, multiflora	<i>Rosa multiflora</i>	Few	Non-native Invasive
Sarsaparilla, wild	<i>Aralia nudicaulis</i>	Very Few	Native
Spicebush, common	<i>Lindera benzoin</i>	Frequent	Native
Vines			
Grape, wild	<i>Vitis sp.</i>	Frequent	Native
Greenbriar sp.	<i>Smilax sp.</i>	Few	Native
Honeysuckle, Japanese	<i>Lonicera japonica</i>	Frequent	Non-native invasive
Honeysuckle sp.	<i>Lonicera sp.</i>	Frequent	Native and Non-native invasive
Ivy, poison	<i>Toxicodendron radicans</i>	Few	Native
Raspberry, flowering	<i>Rubus odoratus</i>	Frequent	Native
Virginia creeper	<i>Parthenocissus quinquefolia</i>	Few	Native

PLEASANT GROVE TRACT

Common Name	Scientific Name	Frequency	Native, Non-native or Non-native Invasive
Wildflowers			
Columbine, wild	<i>Aquilegia canadensis</i>	Very Few	Native
Dandelion, common	<i>Taraxacum officinale</i>	Frequent	Native
Jewelweed	<i>Impatiens capensis</i>	Very frequent	Native
Mayapple	<i>Polyphyllum peltatum</i>	Very frequent	Native
Mustard, garlic	<i>Alliaria petiolata</i>	Very frequent	Non-native invasive
Soloman's seal, false	<i>Smilacena racemosa</i>	Very Few	Native
Strawberry, wild	<i>Fragaria virginiana</i>	Frequent	Native
Trillium	<i>Trillium sp.</i>	Frequent	Native
Wood-sorrel, violet	<i>Oxalis violaceae</i>	Very frequent	Native
Ground covers			
Pachysandra sp.	<i>Pachysandra sp.</i>	Few	Native and non-native
Mosses			
Clubmoss sp.	<i>Lycopodium sp.</i>	Frequent	Native

Common and scientific names are according to:


- A Field Guide to Wildflowers NE and NC America* Roger T. Peterson and Margaret McKenny; Houghton Mifflin.
- Atlas of the Flora of Pennsylvania*, Wherry, Frogg, and Wahl; The Morris Arboretum of the Univ. of Pennsylvania.
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- Shrubs and Vines for Northeastern Wildlife*, Northeastern Forest Experiment Station; USDA Forest Service


Oakbourne Park


APPENDIX F


HAZARD TREES — A Reason for Concern

DEFINITION: A Hazard Tree is a Defective Tree with a Target.

 Dead or defective trees deep in a forest, where people and property (structures, vehicles, etc.) are not likely to be, are not generally considered hazardous. (See **Photo # 1.**)

 However, if a dead or defective tree or defective part, is within "hitting" distance of places where people are likely to be (ie. Established trails, roads, mowed lawns, an interpretive sign, exercise trail station, picnic table, lavatory, building, etc.) then it is generally determined to be a hazard tree. (See **Photos # 2 – 12**, Pages 25 to 30.)

 Landowners, including owners of parks and campgrounds, have been held liable for damages from hazard trees. Some 10 to 15 years ago a hazard tree fell on a tent in a Minnesota State campground and killed the occupants. The state was sued and held liable for several million dollars which was paid to the surviving family members.

 Since that incident, many federal, state, local, and private landowners have arranged for hazard tree surveys on their properties and subsequently have removed the trees, or defective parts or have moved the targets (i.e. picnic tables).

It is recommended that a full hazard tree survey be made in Oakbourne Park, that hazardous tree situations be corrected, and that park staff receive training to keep watch for future hazards.

1. This tree would not be considered as a Hazard Tree.

It is a dead tree deep in the **Main Tract** forest. People are not likely to be in this area. It has great value as a wildlife nesting, shelter, and perching tree.

At least 3 cavity nesting entrance holes were observed in the this tree.



Oakbourne Park

APPENDIX F

Hazard Trees Observed

2. A dead tree in the
Pleasant Grove Tract.

It is covered by wild grape vine,
and other vines, that likely killed it.

The tree poses a threat to people,
their pets, drivers, passengers, and
vehicles traveling on this well used
gravel road.



3. This dead tree (arrow)
presents a hazard to
trail users in the **Main Tract.**

Hazard Trees Observed



4. At first glance, this **London plane** tree (in the left foreground) in the **Main Tract** appears to be sturdy and strong. **IT IS NOT.**

5. It is not uncommon for a mature **London plane**, or its close relative, the **sycamore**, to have large basal cavities. However, when the cavity walls have less than 1/3 of the radius as sound wood, the tree may no longer be able to support the weight of its upper body.

There is a tiny 2 inch-long slit in the opposite cavity wall where one can see clear through the tree.



Hazard Trees Observed



6. This 50-inch diameter **Norway maple**, located about 80 feet west of the Mansion, has a large cavity with a mass of rotten wood inside. Some removal of the upper trunk has taken place since the photo was taken. Careful observation of the tree must be made to assure its safety to people and property.



7. A 36-inch-long stick can be inserted in the same 50-inch diameter tree (measured at 4 ½ feet from the ground).

Experts recommend that if 1/3 or less of the radius of a trunk is sound wood, it may be a hazardous situation and cannot be counted on to support the tree.

The rough measurement being made here indicates that less than 8 inches of sound wood may remain.

GREEN LINE CONSULTANTS

Appendix F — Page 27

Hazard Trees Observed

8. Almost every visitor and Park employee passes by this 29-inch (dbh) red maple tree (arrow) each time they enter the Oakbourne Park grounds.

A major portion of the top is missing.



9. Note the length of the tree measuring stick.

A small opening is barely seen at the base of the red maple.

Hazard Trees Observed



10. The 36-inch-long tree measuring stick can be fully inserted within the base of the **red maple tree** at many angles. The walls of the tree cavity are very thin, much less than the recommended $\frac{1}{3}$ of the radius which should be sound wood.

Hazard Trees Observed



11. Several dead limbs are in the crown of this 55-inch diameter, 103-foot tall **yellow-poplar tree** in the circle by the main entrance of the Mansion. The profuse growth of pencil-thin epicormic branches indicates the tree is in some type of stress.

12. This photo, taken on May 23, 2002 of the 55-inch diameter tree, shows that it is leafing out much later than it should. The drought this spring may have contributed to the stress.



Oakbourne Park

APPENDIX G

Examples of Trash Observed in the Pleasant Grove Tract



Photo 1



Photo 2



Photo 3

Oakbourne Park

APPENDIX H

Control of Invasive Plants

The first priority facing Oakbourne forests is the control of invasive plants. The future health and well being of this forest depends on the degree that these invasives can be controlled. It is probably not realistic to consider complete elimination of the invasives, for there are far too many sources of reinvasion, some of them around the Mansion itself.

Much of the removal work will, of necessity, be labor-intensive. Use of approved herbicides will be needed, but their use should be kept to a minimum to avoid damage to desirable vegetation and to protect the public users of the Park. The authors of this plan are not qualified to provide a herbicide control plan for the treatment of invasives. There are at least two companies that specialize in this type of forestry work. Their advice and counsel would be valuable to have before proceeding. They do work across the State of Pennsylvania. Here are their addresses:

Forest Regeneration Services

Barry S. Rose, Certified Forester
P.O. Box 319
Lawn, PA 17041
Phone: 717-964-2264

J and R Forestry, Inc.

James E. Rutt
565 Stone Mill Drive
Elizabethtown, PA 17022
Phone: 717-367-2396

Most of their work is probably in site preparation for commercial forest planting, but they have lots of experience in this field and they should be able to give excellent advice even if they may not be able to do the work under Oakbourne's circumstances.

Topping the list is the control of **grapevines** in two locations — just North and West of the Pond and just Northeast of the unimproved road winding through the **Pleasant Grove Tract**. Earlier efforts at vine control are evident on some of the vines and in some cases vines have grown back again. An effective way to control grape vines is to cut a 6'' to 12'' section from the vine and to then spray the cut surface on the basal section with **ROUNDUP** in the ready-to-use (RTU) formula. This may have been the technique used by Park Crews or volunteers in the past. We saw no evidence of significant use by people inside either of the two vine-infested areas.

The Japanese pachysandra and the **two species of knotweeds** tend to grow in groups, are somewhat succulent, and can probably be controlled by a combination of cutting and herbicides. But **black jetbead**, **autumn olive**, **multiflora rose**, and **honeysuckle** are all shrubby and will probably need to be cut by hand and then the stumps treated with herbicide to prevent re-sprouting. **Norway maple** poses special problems in removal and control, which should be discussed with experts before any management, is contemplated.

REFERENCE MATERIAL from various sources about the invasives and their management is included after the **APPENDICIES**.

GREEN LINE CONSULTANTS

Oakbourne Park

APPENDIX H

Examples of Non-Native Invasive Plants



1. **Black jetbead** — *Rhodotypos scandens*
Photo taken in May, 2002
in the **Main Tract**.

The white flowers are
1'' to 2'' in diameter, 4 petaled,
and appear in early Spring.

The shiny black fruit resembles
beads and matures in October.



2. **Black Jetbead** tends to grow in masses, effectively preventing desirable seedling growth.
The branches are so weak birds will not nest in the vegetation.



3. **Garlic mustard** — *Alliaria petiolata*, prevent desirable tree seedlings from growing. This group is in the **Pleasant Grove Tract**.



4. **Japanese pachysandra** — *Pachysandra terminalis*. This non-native invasive plant is invading an approximate 70 foot diameter patch in the **Main Tract**.



5. **Japanese knotweed** — *Polygonum cuspidatum*, spreads quickly to form dense thickets preventing growth of native species. This patch is near the picnic shelter.

Pennsylvania Native Shade-Tolerant Trees and Shrubs

Pennsylvania Native Trees and Shrubs that are **Very Tolerant**, **Tolerant**, and **Intermediate** in Tolerance of Shade:

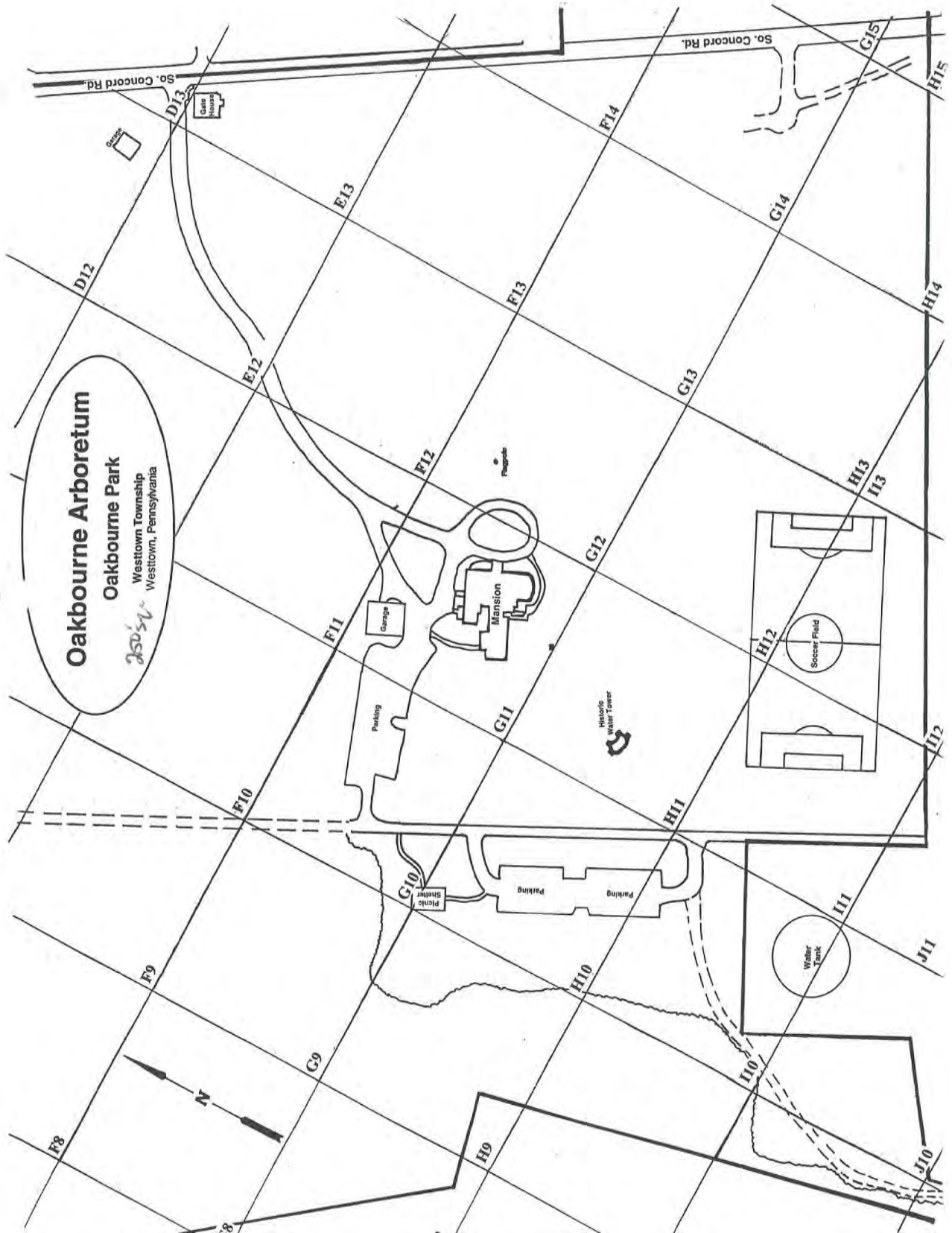
Common Name	Scientific Name	Tolerance of Shade	Preferred Sites
Beech, American	<i>Fagus grandifolia</i>	Very Tolerant	wide range
Dogwood, flowering	<i>Cornus florida</i>	Very Tolerant	wide range
Hemlock, Eastern	<i>Tsuga canadensis</i>	Very Tolerant	moist / cool
Holly, American	<i>Ilex opaca</i>	Very Tolerant	wide range
Hophornbeam, Amer. (Ironwood)	<i>Ostrya virginiana</i>	Very Tolerant	wide range
Hornbeam (blue beech)	<i>Carpinus caroliniana</i>	Very Tolerant	wide range
Persimmon	<i>Diospyros virginiana</i>	Very Tolerant	wide range
Alder, hazel	<i>Alnus serrulata</i>	Tolerant	moist
Ash, prickly-	<i>Xanthoxylum americanum</i>	Tolerant	wide range
Basswood, American (linden)	<i>Tilia americana</i>	Tolerant	moist
Blackgum (black tupelo)	<i>Nyssa sylvatica</i>	Tolerant	wide range
Boxelder	<i>Acer negundo</i>	Tolerant	wide range
Elm, slippery	<i>Ulmus rubra</i>	Tolerant	flood plains
Fringe-tree	<i>Chinanthus virginicus</i>	Tolerant	moist / rich
Laurel, mountain	<i>Kalmia latifolia</i>	Tolerant	wide range
Maple, black	<i>Acer nigrum</i>	Tolerant	wide range
Maple, red	<i>Acer rubrum</i>	Tolerant	wide range
Maple, silver	<i>Acer saccharinum</i>	Tolerant	wide range
Maple, striped (moosewood)	<i>Acer pensylvanicum</i>	Tolerant	wide range
Maple, sugar	<i>Acer saccharum</i>	Tolerant	wide range
Mulberry, red	<i>Morus rubra</i>	Tolerant	wide range
Pawpaw	<i>Asimina triloba</i>	Tolerant	moist
Redbud	<i>Cercis canadensis</i>	Tolerant	wide range
Rhododendron (6)	<i>Rhododendron sp.</i>	Tolerant	moist / cool
Serviceberry (Juneberry)	<i>Amelanchier arborea</i>	Tolerant	wide range
Witch-hazel	<i>Hammamelis virginiana</i>	Tolerant	moist

The following species are considered **Intermediate** in their **Tolerance of Shade**. They can be underplanted to “sweeten” existing stands and improve stand composition, but seek out the sunnier openings in stands to plant these desirable trees:

Ash, white	<i>Fraxinus americana</i>	Intermediate	wide range
Oak, black	<i>Quercus velutina</i>	Intermediate	wide range
Oak, chestnut	<i>Quercus prinus</i>	Intermediate	wide range
Oak, northern red	<i>Quercus rubra</i>	Intermediate	wide range
Oak, swamp white	<i>Quercus bicolor</i>	Intermediate	wide range
Oak, white	<i>Quercus alba</i>	Intermediate	wide range

These native Pennsylvania forest trees and shrubs can, depending upon specific site requirements, be used to Underplant (sweeten) existing forest stands, when the objective is to, over time, return stand composition to that more normal to an **Eastern Mesophytic Hardwood Forest**.

Duane L. Green
GREEN LINE CONSULTANTS



Forest and Tree Stewardship Plan

Oakbourne Park

Trees Identified in the Oakbourne Arboretum

Inventoried - June 3 - 4, 2002

Tree diameters measured 4 ½ feet above the ground in inches at Diameter Breast High (DBH)

Grid Number	Diameter In Inches Some have more than one trunk	Common Name	Scientific Name	Native to SE PA or Native to US or Non-native to US
E12	22"	Horsechestnut	<i>Aesculus hippocastanum</i>	Non-native to US
E12	21"	Maple, Sycamore	<i>Acer pseudoplatanus</i>	Non-native to US
E12	25"	Spruce, Norway	<i>Picea abies</i>	Non-native to US
E12	31"	Horsechestnut	<i>Aesculus hippocastanum</i>	Non-native to US
E12	26"	Maple, Norway	<i>Acer platanoides</i>	Non-native to US
E12	19"	Fir, sp.	<i>Abies sp.</i>	
E12	22"	Fir sp.	<i>Abies sp.</i>	
E12	28"	Maple, Norway	<i>Acer platanoides</i>	Native to SE PA
E12	46"	Oak, White	<i>Quercus alba</i>	Native to SE PA
E12	19"	Hornbeam, American	<i>Carpinus caroliniana</i>	Native to SE PA
E12	29"	Maple, Hedge	<i>Acer campestre</i>	Non-native to US
E12	33"	Beech, Copper	<i>Fagus sylvatica 'Atropunicea'</i>	Non-native to US
E12	29"	Maple, Sugar	<i>Acer saccharum</i>	Native to SE PA
E12	17"	Goldenraintree	<i>Koelreuteria paniculata</i>	Non-native to US
E12	18"	Mulberry sp.	<i>Morus sp.</i>	
E12	21"	Cherry, Black	<i>Prunus serotina</i>	Native to SE PA
E12	7"	Beech, American	<i>Fagus grandifolia</i>	Native to SE PA
E12	7"	Goldenraintree	<i>Koelreuteria paniculata</i>	Non-native to US
E12	8"	Goldenraintree	<i>Koelreuteria paniculata</i>	Non-native to US
E12	5"	Goldenraintree	<i>Koelreuteria paniculata</i>	Non-native to US
E12	14"	Yellow-poplar	<i>Liriodendron tulipifera</i>	Native to SE PA
E12	9"	Hickory, Mockernut	<i>Carya tomentosa</i>	Native to SE PA
E12	7"	Maple, Norway	<i>Acer platanoides</i>	Non-native to US
E12	10"	Maple, Norway	<i>Acer platanoides</i>	Non-native to US
E12	13"	Maple, Norway	<i>Acer platanoides</i>	Non-native to US
E12	15"	Goldenraintree	<i>Koelreuteria paniculata</i>	Non-native to US
E12	7"	Hickory, Mockernut	<i>Carya tomentosa</i>	Native to SE PA
E12	10"	Hickory, Mockernut	<i>Carya tomentosa</i>	Native to SE PA
E12	8"	Goldenraintree	<i>Koelreuteria paniculata</i>	Non-native to US
E12	9"	Goldenraintree	<i>Koelreuteria paniculata</i>	Non-native to US
E13	8"	Arborvitae	<i>Thuja occidentalis</i>	Native to SE PA
E13	14"	Goldenraintree	<i>Koelreuteria paniculata</i>	Non-native to US
F11	26"	Horsechestnut	<i>Aesculus hippocastanum</i>	Non-native to US
F11	27"	Maple, Norway	<i>Acer platanoides</i>	Non-native to US
F11	39"	Maple, Red	<i>Acer rubrum</i>	Native to SE PA
F11	20"	Sawara, Japanese-false	<i>Chamaecyparis pisifera</i>	Non-native to US
F11	24"	Magnolia, Fraser	<i>Magnolia fraseri</i>	Native to US
F11	34"	Spruce, Norway	<i>Picea abies</i>	Non-native to US
F11	32"	Hemlock, Eastern	<i>Tsuga canadensis</i>	Native to SE PA
F11	37"	Maple, Red	<i>Acer rubrum</i>	Native to SE PA
F11	29"	Hemlock, Eastern	<i>Tsuga canadensis</i>	Native to SE PA
F11	32"	Horsechestnut	<i>Aesculus hippocastanum</i>	Non-native to US
F11	27"	Maple, Sycamore	<i>Acer pseudoplatanus</i>	Non-native to US
F11	27"	Spruce, Norway	<i>Picea abies</i>	Non-native to US
F11	17"	Yellowwood	<i>Cladrastris kentukea</i>	Native to US
F11	16"	Yellow-poplar	<i>Liriodendron tulipifera</i>	Native to SE PA
F11	34"	Horsechestnut	<i>Aesculus hippocastanum</i>	Non-native to US
F12	33"	Larch, European	<i>Larix decidua</i>	Non-native to US
F12	13"	Sourwood	<i>Oxydendrum arboreum</i>	Native to SE PA
F12	26"	Sawara, Japanese-false	<i>Chamaecyparis pisifera</i>	Non-native to US
F12	14"	Sourwood	<i>Oxydendrum arboreum</i>	Native to SE PA
F12	14"	Sourwood	<i>Oxydendrum arboreum</i>	Native to SE PA
F12	13"	Sourwood	<i>Oxydendrum arboreum</i>	Native to SE PA
F12	15"	Sourwood	<i>Oxydendrum arboreum</i>	Native to SE PA
F12	24"	Sawara, Japanese-false	<i>Chamaecyparis pisifera</i>	Non-native to US

F12	24''	Sawara, Japanese-false	<i>Chamaecyparis pisifera</i>	Non-native to US
F12	13''	Hemlock, Eastern	<i>Tsuga canadensis</i>	Native to US
F12	21''	Spruce sp.	<i>Picea sp.</i>	
F12	27''	Sawara, Japanese-false	<i>Chamaecyparis pisifera</i>	Non-native to US
F12	19'' 26''	Cherry sp.	<i>Prunus sp.</i>	
F12	25''	Spruce, Norway	<i>Picea abies</i>	Non-native to US
F12	29''	Maple, Red	<i>Acer rubrum</i>	Native to SE PA
F12	57''	Beech, Copper	<i>Fagus sylvatica 'Atropunicea'</i>	Non-native to US
F12	42''	Beech, Copper	<i>Fagus sylvatica 'Atropunicea'</i>	Non-native to US
F12	47''	Beech, Copper	<i>Fagus sylvatica 'Atropunicea'</i>	Non-native to US
F12	56''	Beech, Copper	<i>Fagus sylvatica 'Atropunicea'</i>	Non-native to US
F12	23''	Cherry, Black	<i>Prunus serotina</i>	Native to SE PA
F12	29''	Cherry, Black	<i>Prunus serotina</i>	Native to SE PA
F12	11''	Sourwood	<i>Oxydendrum arboreum</i>	Native to SE PA
F12	24''	Spruce, Norway	<i>Picea abies</i>	
F12	20''	Cherry, Weeping	<i>Prunus sp.</i>	
F12	11'' 13''	Cherry, Black	<i>Prunus serotina</i>	Native to SE PA
G10	7'' 8'' 8''	Crabapple sp.	<i>Malus sp.</i>	Native to SE PA
G10	21''	Apple sp.	<i>Malus sp.</i>	Native to SE PA
G10	18'' 22''	Pecan	<i>Carya illinoensis</i>	Native to US
G10	20''	Pecan	<i>Carya illinoensis</i>	Native to US
G10	5''	Cherry sp.	<i>Prunus sp.</i>	Native to SE PA
G10	11'' 4''	Crabapple sp.	<i>Malus sp.</i>	Native to SE PA
G10	10'' 6''	Crabapple sp.	<i>Malus sp.</i>	Native to SE PA
G10	6'' 7'' 12''	Crabapple sp.	<i>Malus sp.</i>	Native to SE PA
G10	25''	Goldenraintree	<i>Kolrueteria panniculata</i>	Non-native to US
G10	39''	Fir sp.	<i>Abies sp.</i>	
G10	28''	Spruce, Norway	<i>Picea abies</i>	Non-native to US
G10	27''	Sawara, Japanese-false	<i>Chamaecyparis pisifera</i>	Non-native to US
G10	15''	Basswood	<i>Tilia americana</i>	Native to SE PA
G10	9''	Basswood	<i>Tilia americana</i>	Native to SE PA
G10	11''	Sawara, Japanese-false	<i>Chamaecyparis pisifera</i>	Non-native to US
G10	21''	Spruce, Norway	<i>Picea abies</i>	Non-native to US
G10	34''	Spruce, Norway	<i>Picea abies</i>	Non-native to US
G10	17''	Spruce, Norway	<i>Picea abies</i>	Non-native to US
G10	15''	Spruce, Norway	<i>Picea abies</i>	Non-native to US
G10	31''	Fir	<i>Abies sp.</i>	
G10	18''	Spruce, Norway	<i>Picea abies</i>	Non-native to US
G10	33''	Sawara, Japanese-false	<i>Chamaecyparis pisifera</i>	Non-native to US
G10	29''	Spruce, Norway	<i>Picea abies</i>	Non-native to US
G10	13''	Crabapple sp.	<i>Malus sp.</i>	Native to SE PA
G10	27'' 29''	Sawara, Japanese-false	<i>Chamaecyparis pisifera</i>	Non-native to US
G10	51''	Maple, Norway	<i>Acer platanoides</i>	Non-native to US
G10	15'' 11''	Dogwood, Flowering	<i>Cornus florida</i>	Native to SE PA
G11	63''	Plane, London	<i>Platanus occidentalis</i>	Non-native to US
G11	36''	Maple, Norway	<i>Acer platanoides</i>	Non-native to US
G11	33''	Larch, European	<i>Larix decidua</i>	Non-native to US
G11	10''	Maple, Japanese	<i>Acer palmatum</i>	Non-native to US
G11	16''	Maple, Japanese	<i>Acer palmatum</i>	Non-native to US
G11	55''	**Yellow-poplar 108 feet tall	<i>Liriodendron tulipifera</i>	Native to SE PA
G11	8''	Holly, American	<i>Ilex americana</i>	Native to SE PA
G11	8''	Dogwood, Flowering	<i>Cornus florida</i>	Native to SE PA
G11	2''	Sassafras	<i>Sassafras albidum</i>	Native to SE PA
G11	1'' 2''	Sassafras	<i>Sassafras albidum</i>	Native to SE PA
G11	10''	Spruce, Colorado Blue	<i>Picea pungens</i>	Native to US
G11	11'' 9'' 4'' 5''	Maple, Japanese	<i>Acer palmatum</i>	Non-native to US
G11	1'' 2''	Dogwood	<i>Cornus florida</i>	Native to SE PA
G11	3'' 5''	Maple, Norway	<i>Acer platanoides</i>	Non-native to US
G11	23''	Yellowwood	<i>Cladrastis kentukea</i>	Native to SE PA
G12	6''	Maple, Schwedler	<i>Acer platanoides var. schwedleri</i>	Non-native to US
G12	18''	Paulownia, Royal	<i>Paulownia tomentosa</i>	Non-native to US
G12	17''	Sawara, Japanese-false	<i>Chamaecyparis pisifera</i>	Non-native to US
G12	22''	Fir sp. (89 feet tall)	<i>Abies sp.</i>	
G12	25''	Hemlock, Eastern	<i>Tsuga canadensis</i>	Native to SE PA
G12	25''	Redcedar, Eastern	<i>Juniperus virginiana</i>	Native to SE PA
G12	21''	Sawara, Japanese-false	<i>Chamaecyparis pisifera</i>	Non-native to US
G12	22''	Sawara, Japanese-false	<i>Chamaecyparis pisifera</i>	Non-native to US
G12	11'' 13''	Dogwood, Flowering	<i>Cornus florida</i>	Native to SE PA
G12	20'' 3''	Cherry sp.	<i>Prunus sp.</i>	Native to SE PA
G12	15'' 25'' 13''	Chestnut, Chinese	<i>Castanea mollissima</i>	Non-native to US
G12	31''	Fir sp.	<i>Abies sp.</i>	
G12	33''	Larch, European	<i>Larix decidua</i>	Non-native to US
G12	25''	Sawara, Japanese-false	<i>Chamaecyparis pisifera</i>	Non-native to US

G12	9''	9''	Mulberry sp.	<i>Morus sp.</i>	Native to SE PA		
G12	3''	3''	4''	5''	Dogwood	<i>Cornus florida</i>	Native to SE PA
G12	23''		Sawara, Japanese-false	<i>Chamaecyparis pisifera</i>	Non-native to US		
G12	25''		Sawara, Japanese-false	<i>Chamaecyparis pisifera</i>	Native to SE PA		
G12	22''		Fir sp.	<i>Abies sp.</i>			
G12	20''		Spruce sp.	<i>Picea sp.</i>			
G12	26''		White-cedar, Atlantic	<i>Chamaecyparis thyoides</i>	Native to SE PA		
G12	20''		White-cedar, Atlantic	<i>Chamaecyparis thyoides</i>	Native to SE PA		
G13	24''		Walnut, Black	<i>Juglans nigra</i>	Native to SE PA		
G14	14''	18''	Apple sp.	<i>Malus sp.</i>			
G14	21''		Apple sp.	<i>Malus sp.</i>			
G14	14''		Walnut, Black	<i>Juglans nigra</i>	Native to SE PA		
G14	10''	11''	Cherry, Black	<i>Prunus serotina</i>	Native to SE PA		
G14	11''		Cherry, Black	<i>Prunus serotina</i>	Native to SE PA		
G14	18''		Walnut, Black	<i>Juglans nigra</i>	Native to SE PA		
G14	18''	20''	Walnut, Black	<i>Juglans nigra</i>	Native to SE PA		
G14	13''		Walnut, Black	<i>Juglans nigra</i>	Native to SE PA		
H10	50''		Maple, Norway	<i>Acer platanoides</i>	Non-native to US		
H10	12''	15''	Magnolia sp.	<i>Magnolia sp.</i>			
H10	27''		Maple, Sycamore	<i>Acer pseudoplatanus</i>	Non-native to US		
H10	33''		Spruce, Norway	<i>Picea abies</i>	Non-native to US		
H10	21''		Spruce sp.	<i>Picea sp.</i>	Non-native to US		
H10	2''		Spruce, Colorado blue	<i>Picea pungens</i>	Native to US		
H10	3''		Fir sp.	<i>Abies sp.</i>			
H10	8''		Douglas-fir	<i>Pseudotsuga menziesii</i>	Native to US		
H10	19''		Maple, Norway	<i>Acer platanoides</i>	Non-native to US		
H10	2''		Cedar, Blue Atlas	<i>Cedrus atlantica</i>	Non-native to US		
H10	37''	2''	Yellow-poplar	<i>Liriodendron tulipifera</i>	Native to SE PA		
H10	16''		Maple, Norway	<i>Acer platanoides</i>	Non-native to US		
H10	33''		Sweetgum	<i>Liquidambar styraciflua</i>	Native to SE PA		
****H10	****	46''	Maple, Norway	<i>Acer platanoides</i>	Non-native to US		
H11	41''		Oak, Willow	<i>Quercus phellos</i>	Native to SE PA		
H11	44''		Yellowwood	<i>Cladrastis kentukea</i>	Native to US		
H11	41''		Ginkgo	<i>Ginkgo biloba</i>	Non-native to US		
H11	23''		Sawara, Japanese-false	<i>Chamaecyparis pisifera</i>	Non-native to US		
H11	13''		Sawara, Japanese-false	<i>Chamaecyparis pisifera</i>	Non-native to US		
H11	21''		Sawara, Japanese-false	<i>Chamaecyparis pisifera</i>	Non-native to US		
H11	12''		Sawara, Japanese-false	<i>Chamaecyparis pisifera</i>	Non-native to US		
H11	7''	10''	Maple, Japanese	<i>Acer palmatum</i>	Non-native to US		
H11	12''		Magnolia, Saucer	<i>Magnolia x soulangiana</i>	Hybrid-France		
H11	7''	8''	7''	Maple, Japanese	<i>Acer palmatum</i>	Non-native to US	
H11	41''		Maple, Sugar	<i>Acer saccharum</i>	Native to SE PA		
H11	10''		Hickory sp.	<i>Carya sp.</i>	Native to SE PA		
H11	6''		Maple, Norway	<i>Acer platanoides</i>	Non-native to US		
H11	16''		Sweetgum	<i>Liquidambar styraciflua</i>	Native to SE PA		
H11	31''		Oak, Northern red	<i>Quercus rubra</i>	Native to SE PA		
H11	35''		Oak, Scarlet	<i>Quercus stellata</i>	Native to SE PA		
H11	34''		Oak, Swamp white	<i>Quercus bicolor</i>	Native to SE PA		
H11	36''		Oak, White	<i>Quercus alba</i>	Native to SE PA		
H11	35''		Oak, Chestnut	<i>Quercus prinus</i>	Native to SE PA		
H11	45''		Oak, Black	<i>Quercus velutina</i>	Native to SE PA		
H11	36''		Fir sp.	<i>Abies sp.</i>			
H12	32''	37''	Chestnut, Chinese	<i>Castanea mollissima</i>	Non-native to US		
H14	9''	12''	10''	Walnut, Black	<i>Juglans nigra</i>	Native to SE PA	
H14	14''		Walnut, Black	<i>Juglans nigra</i>	Native to SE PA		
H14	18''		Walnut, Black	<i>Juglans nigra</i>	Native to SE PA		
H14	14''		Walnut, Black	<i>Juglans nigra</i>	Native to SE PA		
H14	14''		Maple, Norway	<i>Acer platanoides</i>	Non-native to US		
H14	12''		Maple, Norway	<i>Acer platanoides</i>	Non-native to US		
H14	15''		Maple, Norway	<i>Acer platanoides</i>	Non-native to US		
H14	14''		Maple, Norway	<i>Acer platanoides</i>	Non-native to US		
H14	13''		Walnut, Black	<i>Juglans nigra</i>	Native to SE PA		
H14	13''		Walnut, Black	<i>Juglans nigra</i>	Native to SE PA		
H14	14''		Walnut, Black	<i>Juglans nigra</i>	Native to SE PA		
****	Tree removed after Inventory was made:						
****H10	****	46''	Maple, Norway	<i>Acer platanoides</i>	Non-native to US		

Oakbourne Park

APPENDIX L

WILDLIFE INFORMATION

For wildlife, plants are the ultimate source of all their food and for most of their shelter. As the forests of Westtown Township, Chester County and surrounding areas become more fragmented or eradicated due to development and other reasons, **Oakbourne Park becomes increasingly more important each day.**

Wildlife offer multiple benefits to humans. Non-consumptive benefits include watching wildlife and wildlife photography and both are rapidly growing in popularity. Observing birds is the fastest growing avocation, photographing and sketching them is growing too, followed by observing mammals. As these interest people more and more, so is the watching and studying of butterflies.

The simple enjoyment of watching wildlife, adding a bird to a lifetime list, or perhaps feeding a squirrel or two can be very relaxing. Places to do this are fast disappearing. For whatever the reason, there are many benefits in attracting more wildlife to Oakbourne. Many opportunities exist but perhaps the two easiest to satisfy are for the dual reasons of:

- providing more food and shelter to benefit wildlife,
- and to attract more wildlife species and numbers for watching purposes.

These goals can be accomplished by planting trees, shrubs, wildflowers, and herbs known to offer values to birds, butterflies and small mammals. Shrubs can be planted along forest edges, along the un-named run from the pond. Young shade tolerant seedling trees or saplings need be planted in the forest Tracts to restore the proper balance of age and size classes and provide more wildlife foods

Selected shrubs, herbs, and wildflowers known to attract butterflies and feed their larvae can be planted as a butterfly garden in a sunny spot on the Mansion grounds. Trees and shrubs, known to offer shelter and food for wildlife should be added to the Arboretum, as well.

See the following pages for information about attracting wildlife:

[Native Shrubs for Northeastern Wildlife](#)

[Deer Resistant Vegetation](#)

[Butterfly Gardens](#)

▪ [Important Characteristics of a Butterfly Garden](#)

[Caterpillar Food Plants](#)

[Shrubs to Attract Butterflies](#)

[Plants Recommended for Butterfly Gardens](#)



Native Shrubs for Northeastern Wildlife

This list, which includes a few small trees, is derived from a handbook* about shrubs and vines that are important to wild birds and mammals for food and protective cover.

Common Name	Scientific Name	Common Name	Scientific Name
Alder, speckled	<i>Alnus rugosa</i>	Huckleberry, black	<i>Gaylussica baccata</i>
Alder, hazel	<i>Alnus seriate</i>	Huckleberry, box	<i>Gaylussica brachyara</i>
Blueberry, highbush	<i>Vaccinium angustifolium</i>	Huckleberry, dwarf	<i>Gaylussica dumosa</i>
Blueberry, lowbush	<i>Vaccinium corymbosum</i>	Laurel, mountain	<i>Kalmia latifolia</i>
Wintergreen, checkerberry	<i>Gaulthera procumbens</i>	Maple, mountain	<i>Acer spicatum</i>
Chokecherry, common	<i>Prunus virginiana</i>	Mountain-ash, American	<i>Acer americana</i>
Cherry, pin	<i>Prunus pensylvanicum</i>	Oak, bear	<i>Quercus ilicifolia</i>
Dogwood, flowering	<i>Cornus florida</i>	Rhododendron, rosebay	<i>Rhododendron maximum</i>
Dogwood, alternate-leaf	<i>Cornus alternifolia</i>	Serviceberry, downy (Shadbush)	<i>Amelanchier arborea</i>
Dogwood, red-osier	<i>Cornus stolonifera</i>	Meadowsweet, broadleaf	<i>Spirea latifolia</i>
Dogwood, roundleaf	<i>Cornus rugosa</i>	Meadowsweet, narrowleaf	<i>Spirea alba</i>
Dogwood, silky	<i>Cornus amomum</i>	Spirea, dwarf	<i>Spirea corymbosa</i>
Elder, American	<i>Sambucus canadensis</i>	Spirea, hardhack (Steeplebush)	<i>Spirea tomentosa</i>
Elder, scarlet	<i>Sambucus pubens</i>	Spirea, Virginia	<i>Spirea virginiana</i>
Hawthorne sp.	<i>Crataegus sp.</i>	Sumac, smooth	<i>Rhus glabra</i>
Hazel, American	<i>Corylus americana</i>	Sumac, staghorn	<i>Rhus typhina</i>
Hazel, beaked	<i>Corylus cornuta</i>	Witch-hazel	<i>Hamamelis virginiana</i>
Hophornbeam, eastern	<i>Ostrya virginiana</i>	Yew, Canada	<i>Taxus canadensis</i>

Only a few of these plants will be found at Garden Centers specializing in plants for the homeowner.

The plants are generally available from nurseries that specialize in growing native species for environmental purposes. Here are two sources for many of these native plants.

Octoraro Native Plant Nursery — Phone 717-529-3160
6125 Street Road,
Kirkwood, PA 17536-9647

Sylva Native Nursery and Seed Co. — Phone 717-227-0486.
1683 Sieling Farm Road
New Freedom, PA 17349.

* Reference:

The Handbook is a USDA Forest Service General Technical Report NE-9, published in 1974, *Shrubs and Vines for Northeastern Wildlife* by the Northeastern Forest Experiment Station and the Association of Northeast Game, Fish and Conservation Commissioners.

Deer *Resistant Vegetation

<u>Common Name</u>	<u>Scientific Name</u>
<u>TREES</u>	
Boxelder	<i>Acer negundo</i>
Catalpa sp.	<i>Catalpa sp.</i>
Coffeetree, Kentucky	<i>Gymnocladus dioica</i>
Columbine	<i>Aquilegia</i>
False-cypress	<i>Chamaecyparis sp.</i>
Fir sp.	<i>Abies sp.</i>
Hackberry, common	<i>Celtis occidentalis</i>
Hawthorn sp.	<i>Crataegus sp.</i>
Holly sp.	<i>Ilex sp.</i>
Honeylocust, thornless	<i>Gleditsia triacanthos var. inermis</i>
Juniper sp.	<i>Juniperus sp.</i>
Larch, European	<i>Larix decidua</i>
Locust, black	<i>Robinia pseudoacacia</i>
Maidenhair tree	<i>Ginkgo biloba</i>
Osage orange	<i>Maclura pomifera</i>
Pine sp.	<i>Pinus sp.</i>
Redbud, eastern	<i>Cercis canadensis.</i>
Smoketree, common	<i>Cotinus coggygria</i>
Spruce sp.	<i>Picea sp.</i>
<u>SHRUBS</u>	
Barberry sp. (Japanese barberry not recommended in forests)	<i>Berberis sp.</i>
Boxwood, sp.	<i>Buxus sp.</i>
Broom, Scotch	<i>Cytisus scoparius</i>
Lilac, common	<i>Syringa vulgaris</i>
Rhododendron, sp.	<i>Rhododendron sp.</i>
Snowberry	<i>Symphoricarpos albus</i>
<u>HERBACEOUS PLANTS</u>	
Bugleweed	<i>Ajuga reptans</i>
Daffodils and narcissus	<i>Narcissus Sp.</i>
Daphne	<i>Daphne mezereum.</i>
Flossflower	<i>Ageratum houstonianum</i>
Foxglove, Common	<i>Digitalis purpurea</i>
Hemerocallis sp.	<i>Daylily sp.</i>
Iris	<i>Iris sp.</i>
Larkspur	<i>Delphinium elatum</i>
Lupine	<i>Lupinus sp.</i>
Oriental Poppy	<i>Papaver orientalis</i>
Spirea, bluemist (Bluebeard)	<i>Caryopteris incana</i>
Tree peony	<i>Paeonia suffruticosa</i>
Tulip sp.	<i>Tulipa sp.</i>
Yucca sp.	<i>Yucca sp.</i>

***Note:** No plants are deer proof.

If they are hungry enough, deer will browse most all trees, shrubs, and herbaceous plants.

References:

This list of vegetation suited to SE Pennsylvania conditions is derived from lists by Pennsylvania State University and Colorado State University.

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Butterfly Gardens

Butterfly gardens are a very popular garden feature. They can be an educational delight, a place for people to sit and enjoy a variety of fluttering bits of color, or a place for serious study of different butterfly species and their habits. More importantly, butterfly habitats and food sources are disappearing due to development and general gardening techniques and Oakbourne can play a vital role in providing food and habitat for butterflies



Important Characteristics of a Butterfly Garden

- A combination of plants that butterflies use in each stage of their life cycles:
 - Egg stage (which requires a place to lay eggs that will provide food for larvae)
 - Larval stage (caterpillars)
 - Pupa stage (cocoon)
 - Adult stage (butterfly)
- Flowering plants that provide nectar to attract the adults.
- A variety of plants that will bloom at different times in a season to attract a wider variety of butterflies over a longer period of time.
- Provide clusters of species and create a garden of different colors and flower heights.
- Provide a mixture of annuals, perennials, and biennials.
- Most caterpillars are specific as to what they will eat and butterflies lay their eggs on caterpillar food plants.

Caterpillar Food Plants



Common Name	Scientific Name	Bloom Time
Chokecherry, common	<i>Prunus virginiana</i>	Spring
Parsley	<i>Petroselinum crispum</i>	Summer
Dill	<i>Anethum graveolens</i>	Summer and fall
Milkweed, common	<i>Asclepias syriaca</i>	Summer and fall

- A combination of these 5 shrubs will provide blooms and nectar for butterflies from spring through fall.

Shrubs to Attract Butterflies

Common Name	Scientific Name	Bloom Time
Lilac	<i>Syringa vulgaris</i> and other sp.	Spring
Viburnum	<i>Viburnum dentata</i> and other sp.	Spring and summer
Spirea, meadowsweet	<i>Spirea latifolia</i>	Summer
Butterfly bush	<i>Buddleia davidii</i> and other sp.	Late summer and fall
Spirea, bluemist (bluebeard)	<i>Caryopteris incana</i>	Late summer and fall

- Plant the garden in a sunny place for best blooms and provide rocks for butterflies to sun themselves.
- It is also important to provide shelter places for butterflies to roost at night or during cloudy or rainy weather. Butterfly houses are one type of shelter. Tall trees as well as a variety of shrubs and other plants are also effective.
- Do not use pesticides in or near butterfly gardens.

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Plants Recommended for SE Pennsylvania Butterfly Gardens

Common Name	Scientific Name	Bloom Time
Bee balm	<i>Monarda didyma</i>	Late June to August
Black-eyed Susan	<i>Rudbeckia flava</i>	Summer to fall
China pink	<i>Dianthus chinensis</i>	Early summer to fall
Coneflower, purple	<i>Echinacea purpurea</i>	July to September
Coreopsis sp.	<i>Coreopsis sp.</i>	Spring to fall
Cosmos sp.	<i>Cosmos</i>	Late summer to fall
Gaillardia	<i>Gaillardia pullchella</i>	Summer
Gayfeather, tall	<i>Liatris scariosa</i>	Mid summer to late fall
Gomphrena	<i>Gomphrena globosa</i>	Summer to fall
Joe Pye Weed	<i>Eupatorium maculatum</i>	Mid summer to early fall
Lupine	<i>Lupinus sp.</i>	June
Maltese Cross	<i>Lychnis chalcidonica</i>	June-July
Obedient plant	<i>Physotegia virginiana</i>	July to September
Penstemon	<i>Penstemon sp.</i>	June to August
Phlox	<i>Phlox sp.</i>	July to September
Pincushion flower	<i>Scabiosa atropurpurea</i>	July to frost
Salvia	<i>Salvia sp.</i>	June to August
Sneezeweed	<i>Helenium autumnale</i>	Late summer to fall
Stonecrop, showy	<i>Sedum spectabile</i>	August to frost
Sunflower heliopsis	<i>Heliopsis helianthoides</i>	Summer to fall
Sunflower, common	<i>Helianthus annuus</i>	Summer to fall
Sunflower, Mexican	<i>Tithonia rotundifolia</i>	July to frost
Verbena, garden	<i>Verbena sp.</i>	May to October
Viola	<i>Viola odorata</i>	April and May
Yarrow	<i>Achellia lantana</i>	Spring
Zinnia	<i>Zinnia elegans</i>	June to August



Charles J. Newlon

Forestry & Education Consultant

2 Irving Lane
Wallingford, PA 19086-6677

Phone: 610-872-6019

E-mail: cbnewlon@comcast.net

Fax: 610-872-2994

Westtown Township
Attention: Michael Cotter, Township Manager
1039 Wilmington Pike
Westtown, PA 19395

Bid Proposal for preparing and placing tree identification signs on the Trees of Oakbourne Arboretum

Preparation and Procurement of Signs: (Sample signs are available.)

- Provide **192 arboretum-style tree identification signs** of anodized aluminum.
 - .032" thick and 3" x 5" in dimension, matte-black background with silver colored letters.
 - Each sign will have two holes for attaching to the tree with screws.
 - The horizontal signs will accommodate 3 lines of text: —
 - The 1st line for the Common Name (i.e. **Northern Red Oak**).
 - The 2nd line for the *Scientific Name* (i.e. *Quercus rubra*).
 - The 3rd line could read **Oakbourne Park**; and if desired, at no extra cost, the Westtown Water Tower logo could be added at the left of the text.

Total cost of the 192 signs, with text and logo, and .032" thick..... \$1,862.50
or for:

Total cost for the same number of 3" x 5" signs, but thicker signs at .063".....\$2,150.50

Placement of Signs:

- Provide services to attach the signs with stainless steel screws and stainless steel expansion springs (which allow for expansion of the tree trunk).
- All signs will be placed on the north-facing side of the tree trunk. When the signs face in the same direction, it is much easier for the viewer to locate the signs. This direction also lessens any effect of sunlight on the weather resistant signs.
- All signs will be placed at 4 ½ feet from the ground, the same standard height where the diameter of a tree is measured — at DBH or Diameter Breast High.
- The signs on the small trees (ie. a 2" diameter blue spruce) will be attached with a tie, looped loosely around a north-facing branch.

Total cost for services to properly attach the ID signs to the correct trees.....\$1,140.00

- Providing a total of 192 — .032" thick signs\$1,862.50
- Attaching the 192— .032" signs..... 1,140.00

Grand total with the .032" thick signs.....\$3,002.50

- Providing a total of 192— .063" thick signs\$2,150.50
- Attaching the 192— .063" signs.....1,140.00

Grand total with the .063" thick signs..... \$3,290.50

Charles J. Newlon, Certified Forester, and Duane L. Green, Registered Forester, will provide materials and complete this project by November 15, 2002, if authorized by September 1, 2002.

Sincerely,

Charles J. Newlon, Certified Forester
August 14, 2002

APPENDIX J: ARBNET INFORMATION



4100 Illinois Route 53
Lisle, IL 60532-1293

Office of the President and Chief Executive Officer

May 15, 2019

Mr. Robert Pingar
Oakbourne Park and Arboretum
Attn: Friends of Oakbourne
Westtown Township
1039 Wilmington Pike
West Chester, PA 19382



Dear Mr. Pingar,

Congratulations on achieving Arboretum Accreditation – Level I for Oakbourne Park and Arboretum.

This recognition of professional standards and capabilities is an important milestone for your organization, as well as represents the advancement of goals specific to tree-focused public gardens. As part of the Morton Register of Arboreta, you have an important role in our shared purpose to plant and conserve trees, and accreditation in this work acknowledges your commitment to and fulfillment of professional criteria.

I encourage you to participate in ArbNet, the interactive community of arboreta, to share knowledge, experience, and other resources that help us as arboreta to carry out our collective mission for a greener, healthier, and more beautiful world.

Again, congratulations on your accreditation, and for exemplifying standards of excellence in our arboretum community.

Sincerely,

Gerard T. Donnelly, PhD
President and CEO

630-719-2401
Fax 630-719-2450
donnelly@mortonarb.org



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ARBORETUM ACCREDITATION PROGRAM

ArbNet created its Arboretum Accreditation Program to establish and share a widely recognized set of industry standards for the purpose of unifying the arboretum community. No other international program of accreditation exists that is specific to arboreta. Any arboretum or public garden with a substantial focus on woody plants may apply. Accreditation is based on self-assessment and documentation of an arboretum's level of achievement of accreditation standards, including planning, governance, number of species, staff or volunteer support, education and public programming, and tree science research and conservation. The entire program is free of charge.

Apply for Accreditation

The ArbNet Arboretum Accreditation Program

- Recognizes arboreta at various levels of development, capacity, and professionalism
- Fosters professionalism of arboreta worldwide
- Enables collaboration in scientific, collections, and conservation activities
- Advances the planting, study, and conservation of trees.

Benefits of accreditation

- Be recognized for achievement of specified levels of professional practice.
- Work toward higher levels of professional standards once accredited.
- Identify other organizations at similar or higher levels of accreditation to provide comparative benchmarks and models for further achievement.
- Earn distinction in your community, university, college, or government agency.
- Exert leadership and influence by serving as a model to encourage professional development in other organizations.
- Identify opportunities for collaboration with other arboreta for scientific, collections, or conservation activities.



Examples of institutions that may be accredited arboreta

- arboreta and botanic gardens
- historic properties
- college campuses

- cemeteries
- zoos
- city tree collections
- corporate campuses
- school property
- golf course
- nature reserves
- municipal parks

For specific information on which level to pursue, please visit the [levels of accreditation](#) page.

View map of all accredited arboreta



View listing of all accredited arboreta



ACCREDITATION CRITERIA

APPLY FOR ACCREDITATION

LEVEL I CRITERIA

LEVEL II CRITERIA

LEVEL III CRITERIA

LEVEL IV CRITERIA



PARTNERS



The **Global Trees Campaign** is a joint initiative between Fauna & Flora International (FFI) and Botanic Gardens Conservation International (BGCI). It is the only international program dedicated to saving the world's threatened tree species. GTC does this work by providing resources/training programs, supporting tree conservation projects globally, raising awareness of the need for tree conservation, and prioritizing trees most at risk of extinction through the IUCN/SSC Global Tree Specialist Group's tree red listing program. ArbNet's Level IV Arboreta actively participate in ex situ and in situ conservation in line with GTC's mission.



BGCI supports the development and implementation of the Global Strategy for Plant Conservation (GSPC) at a global, regional, national, and local level. We work directly with our members and other plant conservation organizations, carrying out threat assessments, seed conservation, ecological restoration, plant health and education projects around the world. Botanic Gardens Conservation International (BGCI) was established in 1987 to link the botanic gardens of the world in a global network for plant conservation. BGCI is an independent UK charity with its head office located at the Royal Botanic Gardens, Kew.



American Public Gardens Association connects the field of public horticulture to strengthen collaboration and to enhance its impact, protects their natural heritage and ensures the future of public horticulture through pioneering programs and advocacy and champions the role of public horticulture in improving the quality of life for all.



Plant Collections Network is a long-term collaboration between the American Public Gardens Association and the **USDA-Agricultural Research Service**, Formerly the North American Plant Collections Consortium (NAPCC), its first collections were accredited in 1996. The network coordinates a continent-wide approach to plant germplasm preservation, and promotes excellence in plant collections management.

3/2/2018

Arbnet | Staff and Partners

The American Chestnut Foundation (TACF) is committed to supporting all approaches toward the ultimate restoration of the American chestnut tree since its inception in 1983.



THE
AMERICAN
CHESTNUT
FOUNDATION®



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Complete your online application and be recognized for achievement of specified levels of professional practice.

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View our listing of ArbNet accredited arboreta. Arboreta are accredited at different levels of accreditation depending on degrees of development, capacity, and professionalism.

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ArbNet
c/o The Morton Arboretum
4100 Illinois Route 53
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MISSION AND HISTORY

Mission

The mission of ArbNet is to foster the establishment and professionalism of arboreta; identify arboreta capable of participating or collaborating in certain scientific, collections, or conservation activity; and advance the planting and conservation of trees. To fulfill its mission, ArbNet provides:

- Helpful resources to improve operations, research, conservation, education.
- Arboretum-focused news and events.
- The opportunity to connect with other arboreta to collaborate with in scientific, collections, and conservation activities.
- A broad network to help advance the planting, care, and conservation of trees.
- An online forum for tree-focused discussions.

History

In April 2011, The Morton Arboretum launched ArbNet and [arbnet.org](#), an interactive community of arboreta that is designed to support the common purposes and interests of tree-focused public gardens. The ArbNet Arboretum Accreditation Program which establishes specific standards of professional practice and offers four levels of accreditation. We created the Morton Register of Arboreta – a list and database of arboreta and other public gardens that have a substantial focus on woody plants.

Since its inception, ArbNet has accredited over 180 arboreta. Through collaboration with [partners](#), ArbNet has progressed on several of its goals like working with BGCI to accredit international arboreta, launching a [BGCI/ArbNet Partnership Program](#) along with establishing grants within these partnerships, offering a Capacity Building Grant in 2016 and supporting the American Chestnut Foundation in an effort to replenish the nearly extinct tree by re-establishing a disease-resistant hybrid in its native Appalachian region.

"Individuals and organizations have long sought definitions, standards, and means of establishing an official or legitimate arboretum," according to Dr. Gerard T. Donnelly, President and CEO of The Morton Arboretum, which sponsors and coordinates ArbNet. "No other national or international program of accreditation exists that is specific to arboreta," he said.



Oakbourne Park

Part 3 — ARBORETUM

Originally, the **Forest and Tree Stewardship Plan** was to be limited to the native forests on the property. But once the inventory began and after talking with Township Roadmaster Mark Gross, the Consultants realized that the **Arboretum** was a unique historical collection of trees. Apparently no record exists that lists the names of all the trees in the Arboretum on the greater Mansion grounds. Therefore we inventoried the Arboretum trees, recorded their names, and made a standard Arboretum grid map similar to the one used by **Scott Arboretum at Swarthmore College**. We noted the locations of the trees in a system of 250-foot square grid map.

See **APPENDIX J — Arboretum Map** and **APPENDIX K — List of Trees in the Arboretum**.

It is apparent that the Arboretum is a fine contemporary and historical resource for the Township. It is available for people who are interested in seeing how different trees might look in their yards, for observing which birds frequent which species of trees, or studying how to identify trees by their leaves, bark, or other features.

A total of **192 trees**, representing **59 tree species**, were inventoried in the Arboretum.

Once the new entrance road is completed, there is a fine opportunity to expand the number of trees and species in the Arboretum. There is adequate space to add many native trees, non-invasive exotic trees, and flowering trees to the grounds while preserving outdoor recreation opportunities. The unique resource provides a potential opportunity to provide educational programs, tours, brochures, and environmental training sessions associated with the present or expanded Arboretum. It is sure to be of interest to many visitors especially if the trees are identified by nametags.

Recommendations for the Arboretum

- **Place Arboretum style nametags*** with common and scientific names on each of the trees on the greater Mansion grounds.
(*Nametags are approx. 3" x 5" — anodized aluminum, attached to the tree trunk with stainless steel screws equipped with springs allowing for tree growth.)
- **Provide an Oakbourne Arboretum Check List Brochure** to interested visitors who wish to check-off trees as they learn to identify the trees by their common and scientific names.
- **Provide a plan for expanding the Arboretum by planting new trees.** For a truly scenic, educational, and an outstanding Arboretum, a **Plan** should be made with these needs in mind:
 - Plant trees in selected areas throughout the Mansion grounds.
 - Add a variety of trees native to SE Pennsylvania and non-invasive exotic trees known to grow and thrive in this USDA Planting Zone.
 - Plant trees to line both sides of the new entrance road in the style of the existing road.
 - Keep areas open for recreation gatherings and sports.
 - Design to provide groupings of trees to reduce the area in need of mowing and excessive maneuvering of the mowing equipment.
 - Reduce areas mowed to help reduce air pollution.

The Consultants would be pleased to bid on the fulfillment of any or all of these recommendations.

GREEN LINE CONSULTANTS

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APPENDIX K: PUBLIC MEETING COMMENTS

The following selected comments were received by the Township, via emails following the December 15, 2020 public meeting.

Subject: South Concord Road Cope Tract Cornfield Development

To whom it concerns:

We are writing to you and pleading for you to stop South Concord Road Cope Tract Cornfield development plans as we are totally against it.

With all that is going on in today's climate and trying to keep up with our daily lives, especially managing through the coronavirus and all the stresses and struggles that come with it, we feel we were not properly notified Cope Tract Cornfield was to be developed. Any emails received specifically referred to Oakbourne Park itself. For instance, your survey, which we completed, asks to hear from us and "...what we think about Oakbourne Park to help better understand what is important to you. We want to hear any ideas you have to make the park better." Again, this survey did not mention Cope Tract Cornfield development plans. Like us, many of the surrounding neighbors of Oakbourne Park and Cope Tract Cornfield may not be aware of this proposed development. We do not often check Westtown's website nor are we set up for a Facebook account.

We moved to Westtown Township because of the beautiful open space environment and all its natural animal habitat. After all the years we have lived here, we still get excited seeing deer, fox, birds and other animals on our property and in our neighborhood. This development will destroy one of the last open spaces in Westtown. Sadly it will harm the natural animal habitat and will also impede our neighborhood privacy and security.

Also, we live directly across from Oakbourne Park. People use our street, South Concord Road, as a cut through between Route 202 and Route 1. As it is, South Concord Road has quite a bit of traffic making it difficult for us and our neighbor to safely enter and exit our driveways. Not only that, the road driving conditions are horrendous and dangerous for which we reported and was informed it was the states responsibly to repair. The patch-job road repair at Oakbourne Park and Cope Tract Cornfield made it even more dangerous to travel. This master plan for Cope Tract Cornfield will increase traffic significantly and open the space for future development. It would be in the best interest and safety of Westtown residents and those who travel our roads to use the development money towards Westtown's road maintenance along with other much needed improvements.

Again, we are totally against proceeding with this development at Cope Tract Cornfield. We would appreciate more communication to those neighbors surrounding Oakbourne Park and Cope Tract Cornfield and additional meetings scheduled so that we can voice our concern.

Subject: Park plan proposal

Dear supervisors,

I have a few problems with the proposal for the Oakbourne parks. Unfortunately responding in person is not possible and virtual is not the same as a large group responding to an open meeting. There are numerous residents who are opposed to any changes to the park, and would prefer you maintain what we have.

For instance, the trails on the Cope side are unusable much of the summer due to ticks and the trail that receives limited mowing. The road to the parking area is deteriorating substantially and the remnants and stone wash out onto my property. I've paved 60 feet of the worst at the bottom. That is a twp problem, not mine.

Fifty more parking spaces? We have runoff problems now. Move the flag pole? It's perfect now. Dog park? Liability, smell, noise maintenance? Relocating the gardens means waterlines.

I recall most respondents to the survey (limited as that was)were in favor of the agricultural zones left as is.

The expansion of services will only attract added taxes, necessary manpower, and other than twp residents i.e. those from the new Agway apartments.

Please don't change the nature of this twp. We already provide adequate services for OUR residents. The median age is increasing and need no additional taxation.

Thank you for consideration.

Subject: Proposed use of Cope Tract

Dear Supervisors,

As thirty year property owners on South Concord Road in Westtown Township, we would like to voice our strong opposition to the development of the Cope Tract.

South Concord Road as a State owned road is not well maintained, and heavily travelled already. Developing this tract would add to the traffic, and potential traffic accidents.

Has the Township considered line of sight requirements, the need for an additional driveway, impact upon all those who live near the property? Will the State require a traffic light? So many people already exceed the 35mph speed limit set by the State. Is there a plan to ask the State to abandon ownership of the road and have the Township take responsibility, and reduce the speed limit?

Because a firm was hired to conduct a survey and develop a plan, doesn't mean their plan needs to be implemented in part or at all.

Please reconsider this proposed plan. Consider the cost vs the benefit. Is disc golf necessary? Fifty parking spaces is a lot considering the site itself and the topography.

Not only is there an initial investment, but continuing expense related to all.

We chose to make Westtown Township our home for the open space and natural beauty. The more the land is developed, the fewer birds, animals and people will find enjoyment.

Subject: Re: Park and Rec meeting and approvals Questions

When is the Board of Supervisors meeting for residents.

As previously mentioned notification to residents of the prior meetings and Master Plan was NOT sufficient. This was dissatisfaction expressed very clearly in the November meeting. I only new about it from my husband as it was mentioned in the planning meeting.

We believe as stated, that the Park and Rec committee needs to further and more effectively and respectfully communicate these plans to the public and hold an additional meeting or 2.

I the last meeting where the consultants presented and in other communication I have received, we were told this MASTER plan was going to be presented to the Board of Supervisors for adoption/approval. It was conveyed in the last meeting this was to be done this week.

Residents want to express there lack of approval for the part of the plan that proposes plans for COPE and other activities.

We need a voice before any approval.

When is our opportunity for a public forum.

Thank You,

Subject: Re: Park and Rec meeting and approvals

Good morning,

A Park and Rec meeting is slated for tomorrow evening December 8, however there is no information on how to attend this meeting via zoom as is described under the supervisors meetings. Can you please have somebody update the website so residents know how to get into attend this meeting?

Additionally the supervisors meeting this evening does not state anything about the park and rec proposal for Oakbourne. Can you please confirm this is not up for a VOTE this evening?

Thank you,

Subject: Veterans Memorial

My comment to the Oakbourne Park planners is to add "**potential Veterans' memorial**" site to the flag pole plaza.

Subject: Extremely Concerned Homeowner - Oakbourne Park Master Plan

Hello,

It was recently raised to my attention the township has developed, and is in the near final stages of, a plan to reform/develop the Oakbourne Park. This is extremely concerning to me considering I am a tax paying resident that the Township didn't properly notify homeowners of these drastic changes. Thankfully we live in a well-connected neighborhood and was made aware of these changes by a neighbor. I took time this weekend to review the proposed plan published here: https://www.westtownpa.org/wp-content/uploads/2020/11/Oakbourne_11.10-public-mtg-reduced.pdf in great detail and here are my specific concerns:

1. As mentioned above, our household did not receive any type of communication there was a proposed development plan underway for this parcel of land. As a taxpayer in this community I would expect AMPLE notification of any changes that could possibly impose on our everyday lives living within the township. The presentation notes the first meeting was held on 9/15/20. Our household does receive a copy of the Westtown Gazette and does read through this newsletter when received. There was no mention of this project in the newsletter.
2. Our household did not receive any form of communication from the township there was a survey published to gather feedback on the proposed project. If we had received notification our household would have responded.
3. The survey results - 437 respondents out of 11k "surveyed". These survey results are in no way valid sampling of the homeowners who live in the area. The response rate the township received was 3% of the population. Please help me understand how this represents the majority of homeowners? Also please defer back to bullet point #2. How can the township validate that all homeowners were sent the survey to properly respond? Is the township/planning committee fabricating these numbers to falsify the responses of homeowners? I asked several neighbors myself if they were aware of this plan and/or survey and none of them were made aware.
4. I have little issues with the enlargement plans #1 or #2 as these are already development community spaces that are used every day. However, it would be helpful to understand the specific suggestions the township is making to these areas before I can make a final decision. I realize there's likely an opportunity to rehab some of the existing structures from general wear and tear which would keep the zones/areas safe for recreational use.

5. I think the proposed plan for the playground area is a cover up to secure funds to develop other areas. I do not feel the pictures displayed in the presentation are an actual representation of how the township "plans" to improve this area.
6. I am completely opposed to enlargement plans #3 and #4 as well as any additional parking. As a resident within walking distance to the park, developing these areas would be a complete infringement on our privacy and invitation to increased traffic to our "no outlet" streets. We chose our home because we did NOT want to live on a busy road and we felt our family would be safer on a "no outlet" street. By adding additional parks such as a dog run and or frisbie golf course, that will inherently increase the traffic in our areas as well as invite foreigners to park on our "no outlet" street(s) when the parking lot is full. As a mother of 2, this does not sit well with me knowing that strangers could be parking in front of our house, walking our streets or speed down our streets where my children play. I do not feel the township has considered the thoughts and feelings of those who live on dead end streets, specifically, and only care to improve the township's image. Not to mention the headaches of when the construction actually starts....
7. Why can't the township use this money towards something to improve the neighborhood infrastructure? The majority of Westtown lacks everyday conveniences such as Peco GAS, Public Sewer and Public Water...instead we're forced to maintenance our own systems year over year only to be hit with a massive bill when something fails. It would be nice if we could have some improvement to our township that didn't involve drawing outsiders in.

I'm sure you've concluded from my comments that overall I'm not happy with this project nor how the township has handled it. And I plan to continue this fight until there's a more fair plan proposed for the homeowners neighboring the park.

Please let me know when the next park meeting is scheduled and I will plan to attend.

Thank you,

Hello,

My name is. I am a Westtown resident living on Windy knoll road for the last three years. My wife and I have a young family and love raising our children in such a beautiful place since we moved here three years ago. One of our favorite activities to do when the weather is nice is to take a family hike "down to the creek" just passed the corn fields across from Oakbourne park.

My wife and I received information from a neighbor that there are plans in the making for commercial expansion of Oakbourne park. The expansion plans that I have read include clearing the land and heavy construction over the land that our family enjoys our "creek walks" I also saw surveys that were already obtained from residents living in the area in support of this work. I can say that I received no literature from the township regarding this project, only the information shared by my neighbor.

I am reaching out to you, the board of township supervisors, to express my displeasure that I was not notified of these plans. As a tax paying resident, I expect notification of plans to complete major construction would have been shared with residents like myself and my family.

I am 100% against this project, as it will take away from the privacy that we enjoy behind the cornfields across from Oakbourne park. There are PLENTY of other parks in the area of Westtown/Thorbury that my family have found in the last three years living here. I ask that you please consider the opinions of opposed residents like myself that actually live in the project area prior to making a determination moving forward. Thank you.

Good morning.

I am writing to you to express my concern and thoughts about the current plan to develop Oakbourne Park and the Cope Tract.

The notice of these plans to the residents has been severely lacking as multiple residents who are directly impacted were unaware, and many residents probably still aren't aware of this project.

Notifications should be sent to each resident via mail, as not everyone follows Facebook, or reads the newsletter.

The fact that only approximately 427 residents responded to the survey out of the entire township should indicate that. And basing a project of this proposed scale and cost on those few results is irresponsible and unprofessional.

I just listened to the second meeting from November 10th, and the vagueness and uncertainty in the responses from the participants representing the Plan were both concerning and unsettling. Some of those responses were dismissive and showed a level of disrespect for the residents that will be greatly effected by these changes.

Nothing in the presentations anticipate the burden of additional Policing that some of these changes will require, given the increased vehicle and foot traffic associated with some of these proposed "ideas", such as the dog park and a disc golf course.

There appears to be are very few opportunities to capture revenue from any of the proposed improvements, thus, the financial weight will placed on the taxpayers.

The township has not scored great marks with recent tasks such as road improvement and resurfacing of local roads. The repair done to South Concord road directly in front of the park failed within months, and now the sunken portion of road is larger than before, creating a safety hazard for both lanes of traffic...several local roads have only been partially repaired or resurfaced.

This being said, a proposal of this scope will most likely only be partially done, and adjustments will need to be made in the future due to lack of input and planning at the beginning, which will cost additional Township funds.

There was discussion of requesting Grant based Government funds, but the answers surrounding that topic were speculative and not reassuring.

I imagine you are getting more emails and calls concerning this issue as more residents have been made aware by word of mouth, the danger with that being the lack of information given to residents and the proposed time frame to vote on this matter may create legal and financial issues for the township.

The scope of the proposed project is massive and with vague and unsure responses from the presenters, the time frame in which it is moving, and the lack of notice to residents, gives it the appearance of deception or duplicitous intentions of a small group, and not taking into consideration the impact to those residents directly effected by the project.

The vote to proceed should be delayed until all of the residents have been properly notified and allowed to provide input towards improving the Park.

Thank you for your time.

The following comments were provided by residents at the Westtown Township Board of Supervisors Regular Meeting held virtually via Zoom on Tuesday, January 19, 2021 at 7:30 PM

Gretta Flynn (1000 Windy Knoll Road) raised concerns about the potential development of the Copes Tract, as well as the renditions of the playground in the Oakbourne Park Master Plan. She stated that she has concerns about traffic and environmental impacts from potential Park improvements. She also expressed generalized concerns about the Township's communications about the Master Plan. Ms. De Wolf indicated that the Board does not plan to remove the Copes Tract from the Master Plan, but also has no intention to move any projects on that parcel forward. Mr. Pomerantz encouraged Ms. Flynn to express her concerns to the consultant via the Township Manager.

Linda McKissick (1017 S Concord Road) reiterated her concern from several meetings ago that there is a hunting stand in a tree in the Copes Tract. She also expressed her opposition to any development of the Copes Tract. Mr. Altshul stated that he would be in touch with Ms. McKissick about the hunting matter in the morning.

Ted Moon (1031 Carolyn Drive) expressed his opposition to development of the Copes Tract and his support for the preservation of open space.

Matt Griffiths (1058 Windy Knoll Road) expressed his opposition to development of the Copes Tract and raised concerns about increased traffic in that area. He asked what would happen if Oakbourne Park were not improved, to which Ms. De Wolf observed that the athletic facilities are currently in poor condition.

Bill Chesko (1025 S Concord Road) expressed concerns about stormwater coming from Oakbourne Park across South Concord Road. He noted that Mr. McCardell wants to continue to farm the Copes Tract. Mr. Chesko is also concerned about long-term maintenance costs associated with any improvements to the park.

Jason Chambers (633 James Drive) expressed opposition to the development of the Copes Tract and stated that he would pay for trash cans along the existing walking path.

Tom Foster (734 Westbourne Road) expressed concerns about the powers of the proposed Environmental Advisory Council, particularly with respect to entering private property and eminent domain. Mr. Yaw clarified that the Council would be purely advisory in nature and that more detail about the powers of the Council would be spelled out in by-laws that the Township Manager will draft.

Joe Giunta (634 James Drive) expressed his opposition to development of the Copes Tract, as the preservation of the environment and open spaces is a clear theme in the Township's recently adopted Comprehensive Plan.

Bob Bellucci (1090 Barnview Lane) expressed his opposition to development of the Copes Tract.

Jack Embick (189 Pheasant Run Road) recommended that the Master Plan be amended to recommend that the Copes Tract be maintained as it currently is.

APPENDIX L: PARK STUDY COMMITTEE MEETING MINUTES

Study Committee Meeting #1



Oakbourne Park Master Plan
Westtown Township

Meeting Minutes

Westtown Township
Oakbourne Park Master Plan
Master Plan Study Committee
Study Committee Meeting #1
JMT Project No. 20-01283-001
June 25, 2020

The Study Committee Kickoff Meeting was held virtually on June 25, 2020 for the above referenced project. The following committee members were in attendance via zoom conference call:

Name	Organization	E-mail Address
Meghan Hanney	Committee member	
Catherine Gin	Committee member	
Patrick McDonough	Committee member	
Julie Weidinger	Committee member	
Gary Bevilaqua	Committee member	
Tom Sennett	Committee member	
Sharon Grubaugh	Committee member	
Tom Bare	Committee member	
Marshall Lerner	Committee member	
Chris Limbach	Committee member	
Joe Stratton	Committee member	
Pam Boulos	Committee member	
Mila Robinson	Township Project Manager	
Andrew Mears	JMT	
Matt Gallisdorfer	JMT	
Ann Toole	Toole Recreation Planning	

The purpose of the meeting was to provide an introduction of the project and explore the committee's vision, goals, and expectations for the park master plan.

The following items were discussed:

1. Welcome and Introductions – M. Robinson, welcomed the Master Plan Study Committee (MPSC) and asked the committee members to introduce themselves. The Committee members introduced themselves describing their interest in the project. Andrew Mears, PLA and Ann Toole, CPRP, CPP provided information about their credentials along with information about their previous work with the Township.
2. A Mears reviewed the master plan process, what a master plan is and discussed the characteristics of a good plan.
3. The steering committee role was discussed along with the communication flow chart for the project.
4. A Mears went over the collaboration folder that has been setup for document storage sharing with the Master Plan Committee. A link will be sent to each committee member with the meeting minutes. Members will be able to review and track the plan process but will not be able to edit or delete documents.
5. A. Mears reviewed the design team and the master plan project schedule which is anticipated for an 8-month duration. We will conduct an extensive public engagement process including interviews, focus groups, public meetings and pop-up events where possible. We will develop two or three plan options, cost estimates and potential phasing.
 - a. Interviews with the farmer and the architect for the mansion restoration have already been completed.
 - i. A summary of the key person interviews will be made available on the SharePoint site collaboration folder. The summary will be of general conclusions drawn by the design team and not tied to the individual interviewed.
 - b. The selection of people for key person interviews will be developed with the assistance of the MPSC and Township Project Manager. The design team will conduct interviews with those currently identified and others as identified by the committee though the planning process.
6. Ann Toole reviewed the components of a great park and opened the floor to the MPSC for discussion.
 - a. The MPSC talked about their own person experiences with the park, its strengths, weaknesses, and opportunities for improvement.
7. A. Mears reviewed the project boundary to confirm the limits of the park and noted that there were many restrictions associated with the individual parcels. The design team will be compiling the restrictions as this will need to be addressed in the planning of the park.
8. During the review of existing park area, MPSC members noted, commented, and discussed the following:
 - a. The MPSC discussed the Gaudenzia property and how it fragments the park. A. Mears asked if the township has ever inquired about a potential land swap in order to change the entrance location to the Gaudenzia facility. M. Robinson said she was not sure and would look into this.

- b. M. Robinson gave a little history of how the park lands have been acquired and an overview of some of the adjacent parcel owners.
 - c. M. Robinson noted that according to deed documents, the Township might have the first right to purchase the Gaudenzia property should it become available.
 - d. The park has a very tranquil and serene setting unlike other suburban park in the area. Those qualities are important and should be preserved.
 - e. No one uses Oakbourne when compared to other parks in surrounding areas and that is a tragedy.
 - f. There is a lack of seating at the Park.
 - g. The group discussed the many reasons the park is underutilized including the lack of awareness by residents, the quality of the facilities, the competition from other nearby parks, and safety and ADA concerns.
 - h. The park is currently poorly executed.
 - i. There are limited social aspects to Oakbourne Park.
 - j. The park is also an Arboretum and that should be reflected in the design.
 - k. This park should be different from those within the area that are visited by most. It should include "unique differentiators" to compliment a rustic nature of the park, for example a natural playground.
 - l. Shade must be included in the park especially the children's play areas.
 - m. There is lots of competition for good playgrounds in the area which is one reason people tend to go to other parks such as East Goshen, West Goshen, and Thornbury Parks. Oakbourne doesn't have to be one of those.
 - n. The park is fractured. It should be modernized and connected via pedestrian facilities while still keeping the tranquil aspects of the property.
 - o. Lots of people walk to this park from the surrounding neighborhoods. There are safety concerns with the crossing of Concord Road, Pleasant Grove Road and other streets surrounding the park.
 - p. There are several access points from the adjacent neighborhoods, some are marked but residents do not know what they are. These should be identified and incorporated in the master plan.
 - q. The park plan should make use of interpretive signage for the historic buildings.
 - r. Many residents do not know of the trails within the park. These need to be promoted more.
 - s. The question was raised if there was a budget established for the park improvements. It was noted that the master plan would be developed to include cost estimates for the improvements and outline phasing and implantation strategies. A specific budget would be identified for individual phases to assist the Township in planning for implementation and applying for grants.
 - t. Compared to other municipalities in the surrounding area, Westtown Township has done a poor job of applying and securing grants.
 - u. This is the time to dream big.
9. A. Mears reviewed the homework assignment for the next committee meeting. This assignment will set the stage for discussions regarding establishing a vision statement for the park. MPSC will self-organize to complete the homework assignment.
10. **Moving Forward** – The team will move ahead with interviews and deciding upon focus groups with the Township's Project Manager. Work to be composed for the next study committee meeting include:

- Committee Member Homework
- Complete Site Analysis
- Complete Key Person Interviews
- Schedule Focus Group Meetings
- Schedule Master Plan Study Committee Meeting #2
- Organize Oakbourne Park site visits for the committee members
- Schedule Public Meeting 1
- Work with Township Project Manager to determine Public Meeting logistics

The above represents a true and accurate account of the discussion during this meeting to the best of my knowledge. If there are any conflicts, misrepresentations, or omissions with the above statements, please contact the undersigned within ten (10) days of this date.



Andrew A. Mears

6.29.2020
Date

Copy:
Attendees
Project File



Meeting Minutes

Westtown Township
Oakbourne Park Master Plan
Master Plan Study Committee
Study Committee Meeting #2
JMT Project No. 20-01283-001
August 11, 2020

The Study Committee Kickoff Meeting was held virtually on August 11, 2020 for the above referenced project. The following committee members were in attendance via zoom conference call:

Name	Organization	E-mail Address
Meghan Hanney	Committee member	
Catherine Gin	Committee member	
Allison Corcoran	Committee member	
Julie Weidinger	Committee member	
Gary Bevilaqua	Committee member	
Tom Sennett	Committee member	
Sharon Grubaugh	Committee member	
Tom Bare	Committee member	
Marshall Lerner	Committee member	
Chris Limbach	Committee member	
Pam Boulos	Committee member	
Mila Robinson	Township Project Manager	
Andrew Mears	JMT	
Ann Toole	Toole Recreation Planning	

The purpose of the meeting was to review the preliminary conclusions of the site analysis and overview of the site view.

Agenda:

- Introductions
- Site Analysis Overview
- Summary of Homework Assignment
- Key Person Interview Summary
- Focus Group Meeting Summary
- Initial Thoughts
- Vision/Goals
- Committee Discussion
- Next Steps

The following items were discussed:

1. Regarding the Agenda: M. Robinson posted it as a calendar invitation. Some study committee members couldn't find it. It was noted that it was within the Outlook calendar. The committee requested it to be sent by email in the future.
2. Welcome and Introductions – M. Robinson, welcomed the Master Plan Study Committee (MPSC) and asked the committee members to introduce themselves. The Committee members introduced themselves describing their interest in the project. Andrew Mears, PLA and Ann Toole, CPRP, CPP provided information about their credentials along with information about their previous work with the Township.
3. A Mears presented an overview of the site analysis and preliminary conclusions which included:
 - a. Photo of 843-acre Central Park as a precedent project. Oakbourne Park (OP) is 143 acres. Big picture is that OP is a unique treasure unlike any other park around. History, Culture, Trails, Woodlands, Sports, Stream and more. Things are operated independently and don't work in concert with one another. Need to have all elements of the park working towards a common vision.
 - i. The park and grounds are an example of the Country Place era.
 - ii. Regionally: Area has many municipal parks and preserves that are well-known. Variety of facilities are available. Within 5 miles, a number of community facilities offer events and other facilities. The message we have heard is that we must not replicate East Goshen's Community Park. OP is nothing like that and should never be considered as such. It's important to preserve the park's unique image and develop a distinct identity.
 - iii. Cultural Landscape – Sites shaped by human involvement.
 - iv. Country Place Era – 1890-1930. Wealthy Americans built vast estates with extensive gardens and views were important. Olmsted designed Central Park for the people during this time.
 1. 6 Key Design Principles relate to OP. Arrival sequence. Views. Location of site features and siting of the mansion to take advantage of the great views of the countryside. The grounds and the house together make it unique: it's everything working together.
 - v. Memorial – ASLA policy statement on memorials. How we design them is important and needs to tie to the vision of OP. Everyone has a memorial: can we

- do one that has a better place and is more fitting here to advance the vision of the park? The memorial should not be one that could be anywhere. There are ways to make this work both for the memorial and the park. Flight 93 memorial is an experience. The siting and serenity of the memorial engages people. Look at memorials that really affect you and are not ones you just pass by.
- vi. Basketball Court – 40 kids here that have developed and run their own league over the last 6 years. The ruins could be removed but then you would have a basketball court like anywhere else in the county, or you make the ruins part of the court and include it as a plaza and overview. The kids already use it as a staging area and love the shade and view of the court. The space can be optimized to tie it to the site's history.
- b. Photo Inventory
- i. Entry Drive is well-done and fits into the site but gets confusing at Mansion area. Need address circulation patterns, parking, directional signage and flow patterns.
 - ii. Garden – well taken care of. High use area.
 - iii. Playground gets used but is very basic.
 - iv. Woods are very nice. Pond is overgrown and not utilized. Could be restored and brought back as a great asset.
 - v. Trails – get use but not clearly defined. Some roads are paved, and some are goat paths, some are used for maintenance and it is not clear which is which for the average user.
 - vi. Athletic Area – Programmed and maintained by the leagues. Fields are well maintained. It's like its own park with its own entrance and parking. The separation of the two park areas isn't as conspicuous because of the landscaping and grade changes. It's not as bad as thought and described.
 - vii. Tennis Courts – currently being rehabbed. Parking area has mixed messages on capacity. If all fields are in use, it's crowded but mostly works to accommodate cars.
 - viii. Trail Conditions – Need work. Some trails are marked.
 - ix. Cope Tract – Many different types of uses: four wheelers, horse, hikers, walkers, dog walkers. Informal types of uses occur even though they are not permitted. Currently zoning calls for parking areas to be paved.
 - x. Cross Country – A good place for runners of all levels because of the different type of trails.
- c. Park Area – Multiple deed restrictions and covenants that need verification. The park should be surveyed and researched to produce an accurate document of ownership and restrictions. This would be a township project outside the scope of work on this project.
- d. Site Features – Mapped site features are based on site visits and information provided by county GIS data sets. Trails access points that were observed during the site visit were also mapped. Some residents have installed gates and fences along the park edges as their own personal access point. Several public accesses are marked from adjacent streets. These areas should be marked and verified as part of the park survey.
- e. Existing Park Facilities – About 200 parking spaces in four areas: garden, mansion, sports fields and courts, trail accesses. Only 2 ADA parking spaces are provided. With the exception of the athletic area, the park primarily a passive already.
- f. ADA Issues – Most of the existing park facilities do not meet ADA guidelines and lack accessible routes, parking areas, viewing areas. Questions on how much the Cope Tract has to be made ADA accessible have been raised. If new facilities are proposed, then those facilities would need to be made accessible. The current trails do not need to be made accessible unless facilities are proposed.

-
- g. Arboretum – This is an important part of the story of the park. The trees were planted here about 120-130 years ago as part of the mansion and are part of the estate.
 - h. Slopes, Soils, and Hydrological soils groups – Less grade change than originally thought. No prime ag soils, limitations are mostly associated with the soils within the low-lying areas of the site. A development limitations map was developed to illustrate the natural capacity of the park for development and preservation:
 - i. Ordinance Review – Ag uses, and public open spaces are a permitted use. Parking are required to be dust free all weather surface. Gravel parking areas can be approved by the BOS for overflow parking. Stormwater is a major hurdle to consider and should acknowledge in the development of the master plan.
4. Homework Assignment- The SC evaluation of the park indicates that committee members rated OP overall as fair to average. Cleanliness was the highest rating.
 5. Key Person Interviews – We captured information about general needs. They dovetail with the SC evaluations so there were no surprises. Three broad areas were evident: make it all it can be, fix it up and keep it as it is. The specific comments help to provide ideas for the vision and improvements.
 6. Focus Groups - Friends, Sports and Historic Groups. We learned a great deal about interpretive opportunities and park improvement ideas.
 7. Historic Aerials – were reviewed to describe changes throughout the years with respect to development patterns within the township and the immediate area surrounding the mansion.
 8. Country Place Era – Photo examples of other Country Place Era sites were presented. Many are now commercial establishments, and each has its own story. Bryn Athyn was used as an example due to the similarities in the grounds and could be a precedent project.
 9. Conclusions – Preserve the cultural landscape and the views.
 - a. This is a cultural landscape that should be preserved, protected, and celebrated.
 - b. Community Park that functions as a neighborhood Park
 - c. Mansion and Park are not SEPERATE
 - d. The long views across the site MUST be preserved
 - e. The park offers everything; it all of this and more
 - i. Arboretum
 - ii. Historic and Cultural site
 - iii. Athletic Complex
 - iv. Regional Park
 - v. Nature Park
 - vi. Agriculture
 - f. Park with IDENTITY issues
 - g. Sense of OWNERSHIP for individual places
 - h. Individual rooms can work in harmony
 10. Goals:
 - a. Preserve the historic, cultural, and natural resources of the park.
 - b. Ensure that all park partners are working towards an established vision for the park.
 - c. Right size park infrastructure to reduce overbuilding
 - d. Continue to offer unique recreational facilities and opportunities that fill recreation voids within the immediate geographical area
 - e. Develop an interpretive plan that stitches all these great interpretive stories together.
 - f. Develop organized programs and services plan for the park.
 11. Following the site analysis presentation committee members noted, commented, and discussed the following:

- a. M. Hanney – A. Mears captured the essence of the park with his appreciation of it. T. Sennett agrees and noted it was very stimulating. It gets him very excited to continue with the planning process.
- b. T. Sennett: Is this posted online as he'd like to access this. A. Mears: Yes. Meeting minutes, power point and summary of homework assignments will be in SharePoint. He had a hard time using Share Point. A. Mears said to email him and that anyone else having issues should email him and a new link will be sent to them.
- c. G. Bevilaqua: Need to refine the goals. The main goal needs to be to integrate the fragmentation of the park. Make the park useable for our own residents. Goals need serious work.
- d. M. Lerner: You caught my attention with the Central Park slide. He wonders why it is so enduring. Central Park meets a specific need that the people have: green open space available to people who don't have that. Westtown is very different in most cases residents have open space in their back yards. Therefore, Oakbourne Park must satisfy a different set of needs. He doesn't see how the park ties together and that is a very big challenge. He thinks that each distinct facility needs to be improved on its own making that the best it can be.
- e. A. Mears described linking facilities and the different areas of the park including the Cope Tract in several ways including visually, with trail connections and landscaping. The areas can be physically separated as long as they are linked in some manner.
- f. A. Mears noted that one of the major needs identified in the key person interviews was "real" restrooms.
- g. A. Mears: noted that both the 2014 Park and open Space Plan and Townships 2019 Comprehensive Plan provided recommendations for park enhancements.
- h. C. Limbach: Who leases the Gatehouse? M. Robinson noted it was rented as a private rental as a residence. The property actually was the Mercer School House. That would be a good historical story as it was for kids who were too poor to attend school.
- i. Discussion about value of person in the Gatehouse. Provides a security presence. Once had a person living in the second floor of the Mansion but they retired, and no one lives there now. Not a concern – just seemed weird. A private residence seems to be an inconsistent use in a public park and potential a limitation.
- j. Cameras: Consider installing cameras for security.
- k. Is the shack with graffiti park within the park property? Appears to be on park property. There is a trail camera there now to monitor. It is scheduled to be removed.
- l. T. Sennett elaborated on M. Lerner's comment about the disparate parts of the park. Can we have a welcome center? A. Mears: The house is another area of the park that is bi-furcated. We need to figure out what and if that house can add value to the park.
- m. A. Mears: The park lacks a central HUB from which point all uses emanate.
- n. M. Lerner: Central Park has areas that are unique to themselves e.g. the Zoo is separate and is a destination. Sheep meadow. Bandshell. Fountain area. Lake. Each has its own unique personality but works as part of the larger park. Each is well-maintained. Within Oakbourne Park, the athletic center already stands on its own. The Mansion could stand on its own. South of Concord Road could be its own separate place but is not well developed. Maybe we just need a commitment to bring the park up to a certain standard and maintain it that way. M. Henney supported that and discussed including signage to help people navigate the park to get more use of the park. Her understanding is that the mansion is not included in this master plan. That's a mistake. So much of the park revolves around the mansion. It's locked. The mansion needs some significant repairs. If it were open like in Hibernia with tours etc. to highlight its significance. Should we pursue National Historic Registration Status? P. Boulos noted that a lot of the paperwork was

- already completed to apply for submission of the application. It does not appear at this time there is enough support to pursue the application due to concerns on limitations that may be associated with the designation.
- o. Mansion – T. Sennett made the point that its part of the park and needs to be part of the master plan. M. Robinson described that the master plan scope of work did not include physical improvements to the mansion building interior or exterior.
 - p. Next Committee Meeting: Zoom on Wednesday August 26 at 7:00 PM.
 - q. M. Lerner raised the point that the Vision statement should be dependent upon the users. What is our focus? Who are we trying to get to use the park more? A. Mears: Primary group: increased use by township residents. But there are opportunities for visitors and regional visitation that can be further defined by the vision.
 - r. Public Opinion Survey – A good number of citizens do not know about Oakbourne Park. A. Toole said that it will be an online survey and that developing a promotional program will be critical to getting a good response rate. We will work on developing that outreach program with the Township to get people to fill out the questionnaire. It was noted that the response rate on the recent Comprehensive Plan was very low. There was concern about the survey not being available in paper format for residents who do not have access digitally. This will be further discussed with township.
 - s. Mansion availability depends on staffing and budget.
 - t. Plan Duration – C. Gin wanted to know how long the plan would last. A. Toole explained the vision and phasing would enable the township to move through the phases as funding becomes available. As the park is used over time, the township can update the plan accordingly.
 - u. M. Lerner raised a question regarding the existing park users and who we design the park for. A. Mears reiterated that it was the point of the exercise to determine the vision and the goals for the park.
12. A. Mears reviewed the homework assignment for the next committee meeting. Committee members were asked to draft a vision statement for the park. The consultants will compile and develop the vision for discussion at the next committee meeting. A due date will be established and sent out with the meeting minutes.
13. The meeting presentation and committee homework assignment have been included as attachments to these minutes.
14. The next steps are:
- a. Homework – Vision Statement
 - b. Complete Site Analysis
 - c. Develop Public Opinion Survey
 - d. Confirm Vision Statement
 - e. Schedule next Committee Meeting
 - f. Prepare and Conduct Public Meeting
 - g. Develop Preliminary Concept Plans

The above represents a true and accurate account of the discussion during this meeting to the best of my knowledge. If there are any conflicts, misrepresentations, or omissions with the above statements, please contact the undersigned within ten (10) days of this date.



Andrew A. Mears

8.12.2020
Date

Attachments

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Meeting Minutes

Westtown Township
 Oakbourne Park Master Plan
 Master Plan Study Committee
 Study Committee Meeting # 3
 JMT Project No. 20-01283-001
 August 26, 2020

The Study Committee met virtually on August 26, 2020 for the above referenced project. The following committee members were in attendance via zoom conference call:

Name	Organization	E-mail Address
Meghan Hanney	Committee member	
Catherine Gin	Committee member	
Julie Weidinger	Committee member	
Gary Bevilaqua	Committee member	
Tom Sennett	Committee member	
Sharon Grubaugh	Committee member	
Tom Bare	Committee member	
Marshall Lerner	Committee member	
Chris Limbach	Committee member	
Mila Robinson	Township Project Manager	
Andrew Mears	JMT	
Matt Gallisdorfer	JMT	
Ann Toole	Toole Recreation Planning	
Alison	Committee member	

The purpose of the meeting was to primarily review the draft of the public online survey. Additional agenda items discussed included:

- Homework Assignment – Vision
- Updated Schedule
- Online Survey Questions Review
- Public Meeting
- Questions/Discussion
- Next Steps

The following items were discussed:

1. A. Mears reviewed the meeting agenda and topics to be discussed. The vision statements provided by the committee members were utilized to draft the survey questions.
2. A Mears reviewed project schedule developed for the remainder of the project. Given the aggressive schedule, it is imperative that the outlined dates be met to meet the township's goal of completing the plan by the end of the year

8.26.2020	MPSC Mtg 3 (preliminary vision statement/ survey questions)
9.15.2020	Public Meeting 1 (Intro to project/community Input)
TBD	BOS update
10.13.2020	MPSC Mtg 4 (conceptual alternatives workshop)
10.27.2020	MPSC Mtg 5 (pre-final design, cost estimate, phasing)
11.10.2020	Public Meeting 2 (present pre-final design)
12.15.2020	MPSC Mtg 6 (operations and maintenance plan review)
12.21.2020	Deliver Draft Plan
1.19.2021	Final Plan Presentation (BOS mtg)

3. A. Toole gave a brief overview of the survey questions and the rationale behind the questions, the flow of the questions, and how the information can be extrapolated.
4. A Toole led a lively and robust discussion on the survey. In general, the committee felt the survey was too long and wanted to see it revised on two tracts, one for existing users and one for non-users for the park.
5. After much discussion, a few consistent themes emerged, and it was concluded that the design team would revise the survey questions to address and provide public input on addressing those important factors.
6. An interim meeting may be needed to review the revised survey. The design team will determine after completing the revisions.
7. The committee also noted the use of the survey to engage the public and build awareness of the park.
8. A. Mears presented a brief overview of the Public Information Meeting and objectives of the meeting.

9. A. Mears discussed the next steps:
- a. Finalize the Public Opinion Survey
 - b. Plan and conduct public meeting
 - c. MPSC meeting #4 will be held to review conceptual designs.

The above represents a true and accurate account of the discussion during this meeting to the best of my knowledge. If there are any conflicts, misrepresentations, or omissions with the above statements, please contact the undersigned within ten (10) days of this date.



Andrew A. Mears

8.27.2020
Date

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Study Committee Meeting #4



Meeting Minutes

Westtown Township
Oakbourne Park Master Plan
Master Plan Study Committee
Study Committee Meeting # 4
JMT Project No. 20-01283-001
October 27, 2020

The Study Committee met virtually on October 27, 2020 for the above referenced project. The following committee members were in attendance via zoom virtual meeting:

Name	Organization	E-mail Address
Joe Stratton	Committee member	
Catherine Gin	Committee member	
Julie Weidinger	Committee member	
Gary Bevilaqua	Committee member	
Tom Sennett	Committee member	
Sharon Grubaugh	Committee member	
Tom Bare	Committee member	
Marshall Lerner	Committee member	
Chris Limbach	Committee member	
Mila Robinson	Township Project Manager	
Andrew Mears	JMT	
Ann Toole	Toole Recreation Planning	

The purpose of the meeting was to primarily review the master plan recommendations. Additional agenda items discussed included:

- Public Meeting Recap
- Community Survey Update
- Vision & Goals – Country Estate
- Key Recommendations
- Active Recreation, Disc Golf & Dogpark
- Cope Tract
- Playground
- Restrooms
- Connectivity
- Mansion Hub
- Athletic Hub
- Pond Area
- Stormwater Management
- Story Trail
- Question + Answers
- Next Steps

The following items were discussed:

Community Survey

- Responses increased from 277 to 333 over the course of the meeting. We asked for help in pushing it out. The list serve went out today and no doubt generated the 50+ responses. Chris noted that people are very excited about the survey and the master plan. Tom indicated that reporting of the responses should be clearly within the parameters of the questions.
- Major survey findings included that the preservation of the historical heritage of the park is key. Desired improvements include the addition of restrooms, improvements to trails, a playground on the scale of great playgrounds in the area, and the addition of public recreation programs. The survey findings are shown in the Power Point presentation attached.

Master Plan Concept Presentation

- Andy presented the master plan concept. He provided the overview including values, vision, mission and goals. The slides included the big picture of the park, the Cope Tract, the Athletic Core, the Mansion area, the Playground, and addressing ADA issues. A copy of the PowerPoint presentation is attached depicting each area. We described the potential of the playground and basketball court to further the story of the history and heritage of Oakbourne Park through the Country Estate Era, the national Playground Movement of the late 1800's/early 1900's that addressed public health and child safety and labor, and beloved children's literature of the era (Peter Pan, Wizard of OZ, Wind in the Willows among others).

Discussion

- Ann noted that the survey results indicated that residents would pay for increased programming. Although that was her interpretation, Tom Sennett wanted it to be clear that the community survey did not specifically ask that question. Marshall echoed Tom's concern.
- Chris likes the basketball court with the league and tournament ideas. The park is so full of history that even the basketball tournament can evoke the heritage of the time and the Township.
- Marshall indicated that he is interested in a dog park on the Cope Tract. The dog park generated a lively discussion pro and con with some committee members in favor and some not in favor. Andy recommended developing an overlay showing what the addition of features on the Cope tract means. All are in favor of pathways on the Cope tract. Mila raised concerns about the dog park being located by neighboring houses and the noise generated by the dogs disturbing neighbors.
- Gary presented information detailing the demise of concessions stands, the limited storage needs, and viewing preferences by spectators to be close to the fields. This information shows that the building needs are for restrooms only and a few 10 ft by 10 ft storage areas. The important things for the athletic core are ADA compliance, parking, paved trails and storm water management.
- Tom asked about parking capacity. Andy said that there were 140 spaces in the sports area and 90 in the mansion area. About 12 pull-off spaces are on the Cope tract. Committee members raised concerns about sufficient parking with the addition of programs and park improvements. Mila described Pam's permitting process to ensure limitations on events due to parking. Andy said that we wanted the park to accommodate as much use as possible including appropriate general park use when events are underway and should not just consider today's needs but future needs as the park becomes more utilized.
- Andy raised the question about moving the gardens adjacent to the mansion. Julie noted that the trees there provide too much shade for the garden. Additionally, Tom Sennett noted that the community garden is not as formal as the mansion and may not quite fit the character of the space. The kitchen garden would be in keeping with the mansion.
- Mila really likes the idea of using the carriage house as a restroom facility. Andy spoke with the architect currently working on the renovations to see if there were any immediate concerns with that and explained the larger context of the renovations in the big picture of the master plan.
- Julie suggested exploring the area behind water tower for parking. Andy said this is a great idea that he will explore as it might be viable. Committee members suggested cleaning up the rocks and sand pits.
- A sketch depicting the recommendations in the area of the pond will be developed. Andy will be looking at the pond and Mercer School House to include an ADA fishing pier and cleaning up the boardwalk area.
- Discussion about the Cope tract trails explored the concept of a bridge to cross the creek in the back and a boardwalk system. Andy stated that this would be a big project but that he has done

several projects on riparian buffers in which grants for stormwater management support the development of boardwalk systems. The streambank restoration project could be used as leverage for other funding opportunities for park improvements.

- Sharon stated that she preferred to see the Cope tract have more public use. Gary mentioned that he gave up on the Cope tract for sports when the Township was doing the Open Space, Recreation and Greenway Plan due to site topography and the amount of earthmoving required to develop fields. Tom Sennett said that topography could work for other purposes such as an amphitheater. Open trails through meadows here could help serve the people who are afraid to walk in the woods. Sharon mentioned her concern whether the crops are organic and the chemicals that are going into nearby stream. Joe confirmed that existing farming practices are not organic, but with limited use of pesticides.
- Andy clarified that the existing pavilion is proposed to be removed and two pavilions added: one for the playground area and one for the community garden area.
- Tom Bare liked the removal of the flagpole, the paths that are similar to the original paths, and the design for the clock garden that would accommodate a sundial. This is all consistent with the Historical Commission wishes and the sketch is similar to the original design in photos that the Commission has. Thomas will provide the pictures to the design team.
- Andy noted that the park is made up of many deeds and the chain of conveyance is not clear and all the easements and restrictions have not been marked. Deed research would be a project unto themselves. Mila said that the Historical Commission has taken on the deeds as a project but that its completion may be after the master plan is done. Andy said that they have looked at the deeds enough to understand that the proposed recommendations are appropriate.
- Julie asked for consideration of planting a row of sunflowers as the first crop row at Cope tract to provide an interesting view from the mansion.
- Andy noted that he did not include considerations for disc golf due to the safety concerns. The flying discs are not compatible with other park uses.

Appreciation

- Tom Sennett, Marshall, and Chris all provided their appreciation for a job well done on the plan. The planning team was given a nebulous assignment and then went about not only building the park's skeleton but also putting the meat on its bones.

Next Steps

- Andy will explore the area behind the water tower for parking, modify the building concept, look at the pond area and Mercer School House, do an overlay concept for the Cope tract and show a paved connection from the pond area to the main paved trail loop. Andy and Ann will meet with the Board of Supervisors and prepare for the public meeting. Andy and Ann asked the group for more help in promoting the survey. By the time these meeting minutes were completed, the survey county was up to 345.

- Although not mention in the meeting, committee members should review the background information previously provided on the draft values, vision, mission and goals. The design team would like to have comments by November 1, 2020.

The above represents a true and accurate account of the discussion during this meeting to the best of my knowledge. If there are any conflicts, misrepresentations, or omissions with the above statements, please contact the undersigned within ten (10) days of this date.



Andrew A. Mears

8.28.2020
Date

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Meeting Minutes

Westtown Township
Oakbourne Park Master Plan
 Master Plan Study Committee
 Study Committee Meeting #5
 JMT Project No. 20-01283-001
 December 15, 2020

The Study Committee met virtually on December 15, 2020 for the above referenced project. The following committee members were in attendance via zoom virtual meeting:

Name	Organization	E-mail Address
Catherine Gin	Committee member	
Julie Weidinger	Committee member	
Gary Bevilaqua	Committee member	
Tom Sennett	Committee member	
Sharon Grubaugh	Committee member	
Thomas Bare	Committee member	
Chris Limbach	Committee member	
Mila Robinson	Township Project Manager	
Andrew Mears	JMT	
Ann Toole	Toole Recreation Planning	
Jon Altshul	Township Manager	
Allison Corcoran	Committee member	
Meghan Hanney	Committee member	
Pamela Boulos	Committee member	

The purpose of the meeting was to review the plan updates based on input from the committee and comments received at the public meeting. Agenda items discussed included:

1. Public meeting recap
 - a. Issues to be addressed
 - b. Plan updates
 - c. Cope Tract
2. Master Plan Costs and Implementation Strategy
3. Operations and Maintenance Plan

4. Draft Report
5. Next Steps

The following items were discussed:

Public Meeting Recap

- A. Mears provided a brief recap of the meeting and the comments received. Most comments pertained to the overlay concept and the potential facilities shown. The report will clearly note the primary recommendation for the Cope Tract and distinguish between the overlay concept which will be identified and discussed in the preliminary design section of the master plan report.
- A. Mears reviewed the plan updates which were very minor. Notable changes included identification of stormwater management areas, delineation of required ADA parking areas, areas for the development of meadows to reduce mowing and provide visual linkages between the various areas of the park. The mansion footprint was updated to show the entire footprint of the building. Detail planting beds and decorative pavement areas and treatments will be developed as part any sketch plans for defined work areas.
- A. Mears reviewed the phasing plan and associated development costs which was previously provided to the committee for review prior to the meeting. The draft summary is attached as presented.

Operations and Maintenance Plan

- A. Toole presented the Operations and Maintenance Plan and highlighted key sections.
- There were several questions and discussion on benchmarking figures, budgets, revenue generated by the mansion, and the need for increased maintenance personnel. The complete report including all facts and figures discussed is attached for review and comment by the committee.

Discussion

- J. Altshul noted concerns for the overlay concept for long term maintenance of the potential facilities shown for consideration and discussion, primarily the dog park and disc golf course.
- J. Weidinger noted that the garden club will not consider moving to Cope Tract unless farming practices are organic.
- M. Hanney noted she views the Cope Tract as a wilderness within the overall park that need to be better promoted and signed. She questioned the need for additional infrastructure and the pavilion. It was noted that the existing infrastructure is already located in the adjacent street and only service connections would be required. The proposed pavilion and water service will provide comfort facilities to support both gardeners and park users.
- C. Gin asked what funding opportunities would be available for park improvements. A. Toole provided an overview of the two major funding sources including DCNR and DCED and discussed limits and matching requirements.
- T. Sennett voiced concern for how to keep momentum moving for the project. A. Mears noted that the design team is discussing a low hanging fruit recommendation to be included in the master plan. However, given passed development patterns and the lack of stormwater management within the park it will be difficult and not cost effective to develop individual facilities.

Next Steps

- Complete draft master plan report for submission to the BOS for January 21, 2021 meeting.
- *The Operations and Management, and design chapters will be submitted to the committee for comments prior to final compilation of the draft report to be submitted to the BOS. The phasing plan, cost estimates, and draft values, vision, mission and goal statements were previously provided to the committee.*

The above represents a true and accurate account of the discussion during this meeting to the best of my knowledge. If there are any conflicts, misrepresentations, or omissions with the above statements, please contact the undersigned within ten (10) days of this date.



Andrew A. Mears

01.05.2021

Date

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APPENDIX M: EXISTING CONDITIONS MAP AND PHOTO INVENTORY

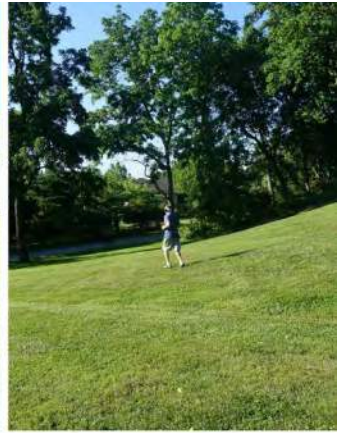
Analyses / Existing Conditions



Photo Inventory / Existing Conditions









Runners Park

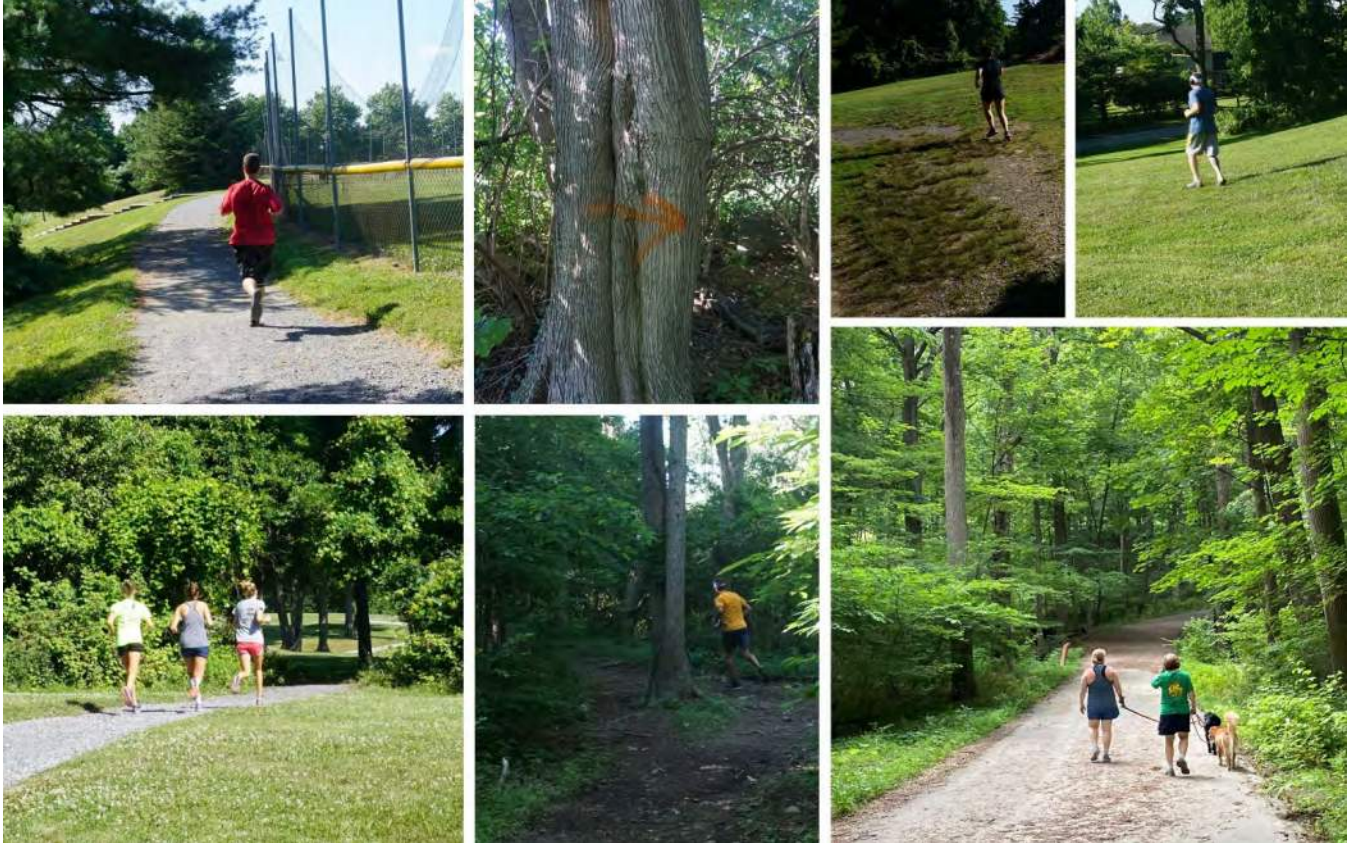


Photo Inventory / Existing Conditions



Neighborhood Access Points



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