



Five Rivers MetroParks

Carriage Hill MetroPark Master Plan

2018



Section/Chapter headings are hyperlinked to the individual section files. Either click on headings or press "Ctrl" and left click your mouse to view chapters.

Table of Contents

1. EXECUTIVE SUMMARY

1.1 Background and Purpose	1
1.2 Master Planning Process.....	1
1.3 Major Recommendations	2

2. THE PLAN

2.1 Position Description	5
2.2 Park History	8
2.3 Site Planning Process and Findings	9
2.4 Conservation Plan	13
2.5 Interpretive Plan	18
2.6 Programming Plan.....	21
2.7 Site Plan.....	26
2.8 Land Protection Plan	32

3. IMPLEMENTATION

3.1 Introduction	33
3.2 Capital Improvements.....	33
3.3 Parks and Conservation	36
3.4 Programming and Interpretation	40
3.5 Business.....	42
3.6 Public Safety.....	44
3.7 Development.....	46

4. APPENDICES

1. Team and Process Summary
2. Position Description
3. Meeting Notes
4. Staff Input
5. Stakeholder Input
6. Public Input Comments
7. Survey Results
8. Site Plan
9. Conservation Plan
10. Carriage Hill Master Plan Map
11. Property Records
12. Budget Impact Projections
 - a. Carriage Hill Projects - Capital
 - b. Carriage Hill Projects- Parks and Conservation
 - c. Business Operations
 - d. Marketing
 - e. Volunteer Services
 - f. Outdoor Connections Historic Cultural
 - g. Outdoor Connections Outdoor Education
 - h. Outdoor Connections Recreation
 - i. Parks and Conservation
 - j. Conservation
 - k. Parks
 - l. Public Safety
 - m. Site Plan Capital Estimate
 - n. Site Plan Summary

SECTION 2: THE PLAN

2.1 PARK POSITION DESCRIPTION

Carriage Hill MetroPark is a 939-acre park consisting mainly of former farmland and woodlots, with substantial prairies as well. The park includes two tracts of mature forest along with large areas of young forest. Old fields have been planted to native hardwoods, meadows, or prairie. Several wetlands occur on the property, along with the 14-acre Cedar Lake, Drylick Run, and four small ponds. A significant portion of the park is devoted to the 1880s living history farm that includes three homes, various barns and outbuildings, and the Visitor Center. The Equestrian Riding Center occupies a smaller area on the east side of the park and includes two barns, one with stalls and one with an arena, an outdoor arena, and various paddocks and pastures. Drylick Stables, in the northeast section of the park, is a leased, privately operated boarding stable that is accessed from Palmer Road. Shull Road, a public right-of-way, bisects the park and all of the park areas are accessed from Shull Road. Between the farm fields, prairies, and Cedar Lake, the park has an expansive, open feel.



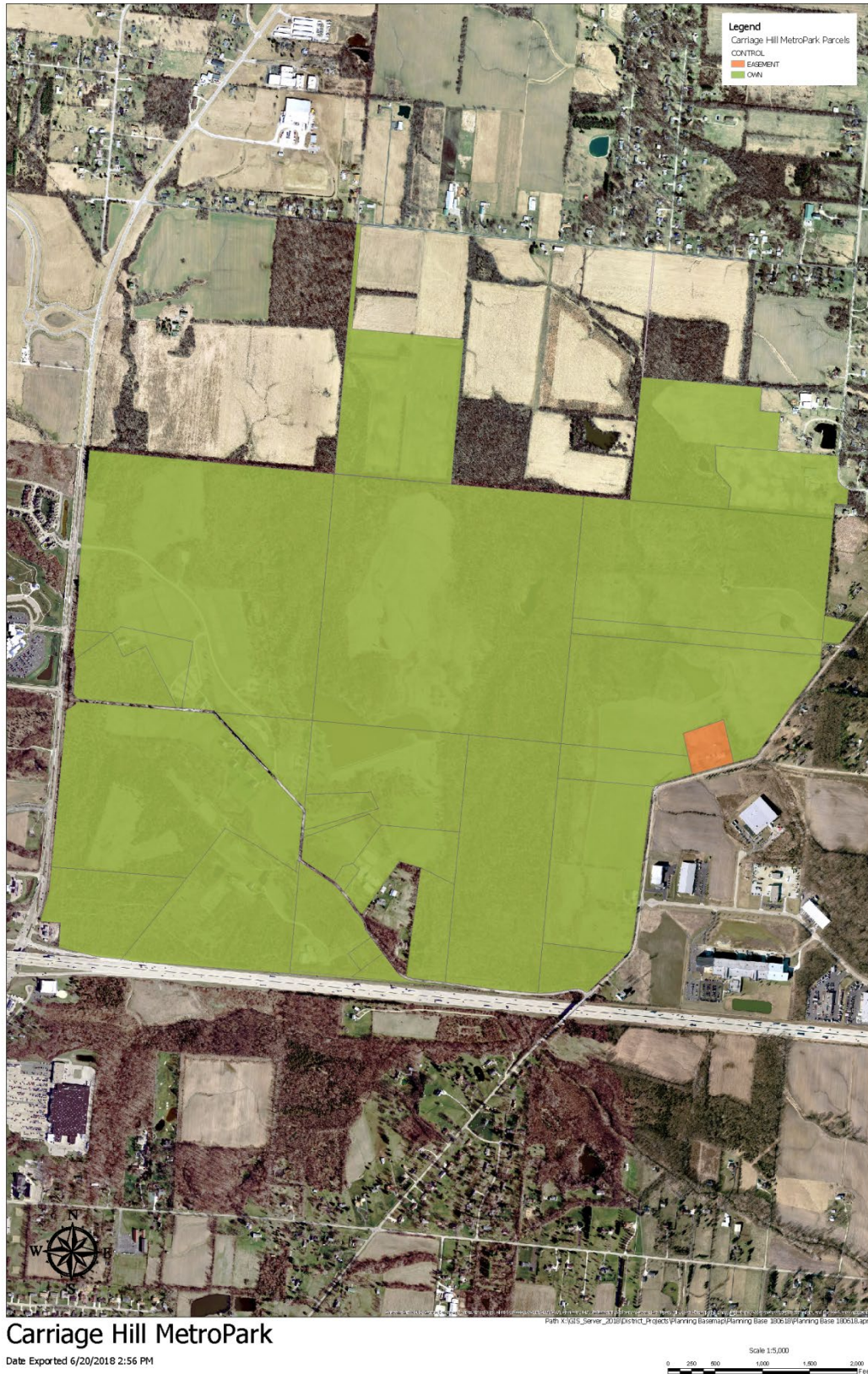
Carriage Hill is similar to Englewood MetroPark in that it lies essentially adjacent to the dense population in the city of Huber Heights; however, State Route 201 and Interstate 70 create significant barriers to access the park. The park borders have been evolving over the last decade with new commercial and residential development occurring primarily on the west side of the park. Interstate 70 produces steady, low grade noise levels on the park's southern border. To the east, agricultural fields have been converting to light industrial use in recent years; and to the west historic agriculture fields have converted to single family homes and recreational use: a YMCA and a water park. Land use to the north has remained stable with farms and a few single-family homes between the park boundary and Singer Road.



Carriage Hill MetroPark is identified as a nature park in FRMP's typology matrix, reflecting its wide variety of experiences and balanced blend of ecosystem versus human services. As a nature park, it is similar to Possum Creek MetroPark in that it has high intensity facilities, such as the Historic Farm and the Equestrian Riding Center, among expansive natural areas. These natural areas comprise 82% of the park's acreage. Carriage Hill attracted nearly 160,000 visits in 2018, which falls approximately in the middle for the number of visits for all Nature and Community MetroParks.

Three main uses are offered at Carriage Hill: the living history farm, the Equestrian Riding Center, and an array of activities in the natural habitats of the park. The farm authentically depicts life as the Arnold family lived it in the 1880s, offering animals of heritage breed, 1880s era crops, steam engines, and other elements consistent with that time that are demonstrated through programming and tours as well as independent use. The Equestrian Riding Center offers trail rides, lessons, equestrian camps, and pony rides. In the natural habitats, which offer a strong balance of woods and prairie, the park offers hiking, fishing, picnicking, and paddling, as well as equestrian trails for those who trailer their own horses into the park. Counter data from 2018 shows that a little over 40% of the attendance uses the parking lots around the farm and visitor center, 14% park at the Equestrian Riding Center, and the rest, nearly 25%, use the lots around Cedar Lake. Carriage Hill MetroPark ties strongly to the two core interpretive themes that each MetroPark tells a natural or cultural story from the past and active conservation efforts protect the land for future generations. The interpretive theme specific to Carriage Hill is that the park has been a living example of people being changed by nature and nature being changed by people.

Carriage Hill MetroPark is best-known for the Arnold's living history farm; in addition, there are 770 acres of natural habitat and the Equestrian Riding Center. One of the largest MetroParks, it offers distinct and diverse experiences that remind visitors of simpler times—fishing, picnicking, hiking, horseback riding, and experiencing 1800s life. The expansive views of waving prairie grass, pastures, and Cedar Lake convey a distinctive sense of peace and calm. Carriage Hill's identity within the MetroParks system is as a rural setting where one can experience history and nature in many dimensions and activities.



2.2 PARK HISTORY

The park district established Carriage Hill MetroPark as its first park in April 1965, when the district bought 224 acres with donated funds, mainly from Eugene Kettering. The land was targeted for its proximity to Huber Heights, the most rapidly growing section of the metropolitan area – and the most in need of open space preservation.

The park was originally named Drylick Run, derived from the small stream running through the property. The rolling terrain, of which was 70 acres of mature forest and meadows, was well suited to nature trails, hiking, camping, picnics, horseback riding and related activities. At the time of purchase, there was also consideration of adding a golf course and swimming facilities. However, the main focus was preserving trees, flowers, birds and animals on the land – and offering local schools a place to study nature.

In 1968, the adjacent 97-acre property including a historic farm was purchased and turned into an outdoor education center intended to educate the public on our region's agricultural heritage. Dane Mutter, who would become Assistant Director for the Park District (now FRMP), led conservation efforts and began the popular Springtime and Autumn on the Farm programs in 1970, partnering with the Montgomery County Historical Society to showcase life on the farm in the 1880's. The Friends of Carriage Hill was founded in 1974 to provide financial assistance for the farm and its programming.

The original farm, making up the historic farm portion of Carriage Hill MetroPark, was purchased by the Arnold family in the 1830s. Henry H. Arnold died in 1910 and the farm was sold to Sallie B. Turner and her husband in 1916. The Turners later sold the farm to Lillie Shoup, a widow with 13 children. The Shoup family sold it to Ernest and Rhea Fourman in 1954. The Fourmans modernized the Arnold homestead and named it "Carriage Hill" before selling it to the Park District of Dayton-Montgomery County (now FRMP) in 1968.

In 1976, the park district developed a new master plan for Drylick Run, including the farm, and applied for the National Register of Historic Places – which it later received. During this process, the name of the park itself was changed to Carriage Hill Reserve, and ultimately to Carriage Hill MetroPark.

In 1977, as a result of recommendations from the park master plan, plans were developed to create the current Cedar Lake. A new dam was constructed to retain the new lake.

In 1993, ground was broken on the new visitor center which would house new interpretive displays, the Country Store, and serve as the entry for the historical farm.

Also, in 1993, Shull Road was relocated and reconstructed creating a new main entry on Brandt Pike and connecting into the existing road just south of the Cedar Lake parking lot.

In 1995, an adjacent horse farm was added to the park, enabling the district to offer an Equestrian Riding Center to the public in 1996.

Carriage Hill continues to offer a glimpse of living farm history, as well as opportunities for environmental education and recreation on its stream-threaded nature trails, woodlands, croplands, and meadows.

Since the original purchase in the 1960's, the park has expanded to over 900 acres of land rich in cultural and natural history. The park now contains horse trails around the perimeter of the park and the Equestrian Riding Center on Shull Road. Carriage Hill has numerous hiking and equestrian trails, woods, wetlands, meadows, duck pond, fishing lakes, the Daniel Arnold home and outbuildings, the Joseph Arnold home, orchard, cemetery, and equipment graveyard. The animals at the farm are those that would have been there a century ago - cows, draft horses, sheep, pigs, and chickens.

Widely recognized for its unique opportunities in outdoor education and recreation, Carriage Hill MetroPark has been a major attraction to residents of Montgomery County and its surrounding area. In 1976, annual visits approached one hundred thousand persons, and has grown to nearly 160,000 in 2018.

Additional detailed information about the historic farm and the Arnold family can be found in the [2016 Historical and Volunteer Manual](#).



2.3 SITE PLANNING PROCESS

FRMP has established a [site planning process](#) which was used to develop this Site Plan for Carriage Hill MetroPark (the “park”). FRMP retained the services of Hitchcock Design of Naperville, Illinois, to develop the site plan. A core team of key, cross-agency staff was established to guide the plan throughout the process. The core team participated with the consultant in a two-day kick off process to provide orientation and input and continued to be closely engaged throughout the development of the plan, providing feedback at each key decision point and engaging individually as various issues and opportunities arose that pertained to their work responsibilities. Core team members gathered feedback from other staff, and additional staff members directly associated with the park had an opportunity to provide their ideas, insight, and issues.

The public had several opportunities to provide input into the development of the site plan. Two public open houses were conducted during the two-day kickoff session where attendees were able to talk to staff and the consultant team. Intercept surveys were provided to meeting attendees and were available online for those who were not able to attend in person. An additional public meeting was held to present the pre-final concept plan and gather feedback. Stakeholders and attendees from the first open house were sent direct invitations to attend or to comment about the plans online.

FRMP also engaged key stakeholders in the project to collect input and feedback. Stakeholders included the neighboring jurisdictions of Huber Heights and Bethel Township of Miami County and FRMP volunteers. These meetings provided insight to the context around the park, identified opportunities and issues, and explored future partnerships.



Data and Analysis Summary

A previous Carriage Hill MetroPark master plan completed by Woolpert of Dayton, Ohio in 1977 was reviewed. Key recommendations of the plan included the following:

- To familiarize the public with the system of parkland reserves and programs of the Dayton-Montgomery County Park District, including Carriage Hill Reserve. (Ongoing)
- To improve and promote the use of Carriage Hill Reserve in such a way as to protect and conserve the land for posterity. (Ongoing)

- To establish a design framework to be incorporated into the implementation of the various components of the Master Plan that is consistent with the philosophy of the Park District "to conserve the lands for posterity" with the intention of keeping 80 percent of the reserves in a "natural state". (Ongoing)
- To improve the vehicular circulation system of Carriage Hill Reserve in a manner that minimizes the impact of the automobile and provides for improved management of the Park District lands. (Not completed)

2017 Park Master Plan Input Summary

During the two day kick off process, several key high-level issues and ideas were raised that were considered throughout the planning process:

- The park is struggling with the bandwidth of the volunteer base at Carriage Hill- Volunteer base is low and declining
 - Volunteer office in original log house - oldest structure in MetroParks
 - Volunteers need purpose
- Sections of the park are segregated in a “suburban style” layout
 - Unify park through programming, layout, use, and architectural elements
 - Trails can be a unifying element and best meet FRMP’s goals and purpose
- Carriage Hill MetroPark needs to always provide a valuable visit when visitors are coming to the park; mostly evenings and weekends
 - Gate at Visitors Center closes at 5pm. Consensus is it should stay open and not be closed
 - Visitors are unsure where they are welcome and where they are not. Need to clearly identify where visitors are free to roam and where they need to stay on the path.
 - Being here in the evening is a great, but very different feel
 - Strengthen visitor’ experiences
 - Learn from past for sustainable future

- Programs need to be provided to enhance the visitor experience
- Connect the 2 sides of park
- North Woods Pond should be enhanced and made more accessible
- Need shorter trail loops
- Animals are a huge draw
- How do we brand the whole site?
 - Promote the park as a farm
 - Free range play - Lots of different opportunities
 - Play in the creek
 - Try farm style activities
 - Learning: Where food comes from... the farm
 - Experiences: Tasting, buying trinkets produced on the farm
 - Get married in a historic barn
 - Stay overnight and eat breakfast at historic bed and breakfast house, sit on porch
 - See everything, taste everything
 - Just get out and do what is or was done on a farm
 - Need to promote history to the public in new ways to be relevant to current county population
 - Interpretive trail
 - Orchard
 - Cemetery

- Bed + Breakfast
- Creek
- Make sure CH's identity is relevant to available audience
 - Trails
 - Identity
 - Visibility
 - Connections
- Fitness opportunities: be relevant and accessible to Huber Heights
- Potential new tag lines:
 - "Learn from the past to build a sustainable future"
 - "Rediscover Carriage Hill Park"
 - "Welcome home, down on the farm"
- Need to enhance attendance and reach new audiences
 - Trails - make them safe, dry, and understandable, Carriage Hill MetroPark survey said, "more trails", and a recognizable trail head
 - Join the two halves of the park: if they come for X they don't necessarily connect to Y- For example, many come for the farm and have no idea the rest of the park exists
 - Consistent, strong staffing, a refresh on Visitor Center
 - Weekend programming: bed and breakfast, expand trails
 - Engage value of "frontage" along 201 exposing old Shull for bike access
 - Way finding, identity, quality programming

- Market Carriage Hill MetroParks diversity - awareness
- Connections - enhance staff and physical offerings
- Visibility: the best things in this park can't be seen, people watching, horse watching, thriving visual connections
- Enhance the sense of arrival - capture views, pull offs
- Connections across Shull Road- change sign/entry "carriage hill farm, natural area and Equestrian Riding Center"
- Current cooking program is well attended
- Add new amenities: shelter, play environments, trail signage
- Nature play / farm play
- Create park wide events / venues such as:
 - Farm day with steam equipment, horse drawn equipment, animals, home cooked meal, and end it with an evening of square dancing
- Engage local / professional / school clubs and societies and allow them to use existing structures to call home. Such organizations include:
 - FFA
 - 4-H
 - Boy / Girl Scouts
- Create new programs to reach a wider audience:
 - Train like a professional athlete, work on the farm
 - "Walk the farm"- fitness trail, rejuvenation
 - Farm fishing, preparation and cooking class
 - Hunting in the 1800's

- How to make a fly for fishing
- Stop using historic structures for never to be used old equipment and material storage
 - Allen Barn
 - Move storage to maintenance (new cold storage)
- Update the Visitor Center
- Make the facility more rental or special event friendly
- Improve the Country Store
- See it on site, buy it in the store (sell items for sustainable “future”)
- Create a vision for the Equestrian Riding Center

Site Plan Program

The site plan program was developed from all of the input gathered from the public, stakeholders and staff along with the physical data and analysis. The program provides a guiding framework and a set of overarching goals which should be met in the final site plan and ultimately the park master plan. The following highlights provide an overview of the park program that guided the development of the site plan.



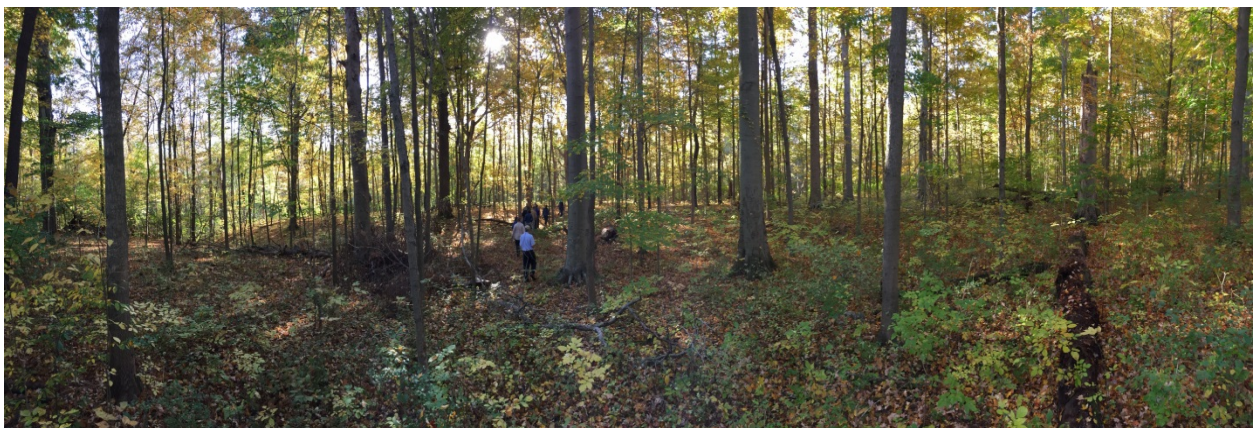
The following four programming areas were developed to guide the development of the site plan:

- Attract local community to experience Carriage Hill’s unique diversity
 - Safe, well-signed, easy-to-use vehicular, bicycle and pedestrian access and parking
 - Refine and strengthen Carriage Hill’s Visitors Center, Farm, Habitat, and Equestrian Riding Center

- Regional, multi-purpose performance arena/pavilion linked with Equestrian Riding Center refurbishment and community organization alliances
- Regional nature-based/farm play environment, visible from the Visitors Center and/or arena/pavilion
- Enhance Carriage Hill's robust and exceptional assets.
 - Perpetuate current Arnold Historical Farm set-up and education programs; explore farm operational hours - evening and weekend hours
 - Continue with habitat improvements and reestablishment according to Carriage Hill's Habitat Master Plan
 - Dredge Cedar Lake and rebuild boardwalk
 - Add observation / fishing areas along North Woods Pond
 - Repair Prairie Pond levees and add trails for access and maintenance
 - Continue reforestation efforts
 - Refurbish / relocate the Equestrian Riding Center to meet FRMP's standards and potentially align with outdoor, multipurpose arena
 - Add larger, signature shelter with amenities that facilitate Nature Education Programs and larger gatherings
 - Refurbish the Visitor Center, consolidate exhibits, and retrofit for flexible, multipurpose gathering and conference space.
 - Upgrade concessions and explore opportunities to sell exclusive "Carriage Hill" items
 - Repurpose Joseph Arnold House Historic Farmstead and orchard into bed and breakfast
 - Consolidate items stored in Carriage Hill's barns and structures and refurbish and repurpose for gatherings and events

- Add more cold storage to existing Maintenance facility and add another restroom to help facilitate steam education program
- Improve Carriage Hill's connectivity inside the park and outside with the surrounding community
 - Improve Carriage Hill's presence along Brandt Pike Road and Bellefontaine Road with improvements consistent with Carriage Hill's historic architecture and aesthetic
 - Add a pedestrian/bike trail crossing at Old Shull Lane to connect with future West Shull Road bike lane and the Great Miami Recreation trail
 - Enhance Carriage Hill's entry sequence through signage, landscape, lighting, and architectural elements
 - Reconfigure Shull Road including its configuration, width, cross section, and surface material to improve pedestrian safety and facilitate trail crossings
 - Explore abandoning the Shull Road right of way past the current Equestrian Riding Center and implications of doing so
 - Add trail and trail crossing at Visitor Center and Red Wing Shelter
 - Improve trails and continue resolving erosion issues by regrading and changing surface conditions where feasible
 - Explore a dual trail system and the potential of allowing bikes
 - Realign / add trails to create 5K loops
 - Create Arnold Historical Farm entry plaza and Historical Farm walk at and around the Visitor Center
 - Create Arnold Historical Farm trail loop around the farm to the south and connecting with nature/walking trails to the north
 - Add Joseph Arnold trail to family cemetery and farm equipment graveyard
 - Add ½ mile, nature education trail north of the Cedar Lake boardwalk

- Realign bridle trail P to Q along Shull Road eliminating the road crossing
- Engage and collaborate with schools, community, professional, and government associations and organizations to strengthen attendance, funding, and use of the park
 - Tactically align with like-minded community, school, professional, and youth development organizations and societies allowing them regular use of Carriage Hill and its facilities. Such organizations could include:
 - 4-H
 - FFA
 - Equestrian organizations (Stillwater Pony Club, etc.)
 - Friends of Ohio Barns
 - Conservation Clubs
 - Universities
 - Historical Societies
 - Collaborate with local equestrian organizations in the development of Equestrian Riding Center and performance arena/pavilion
 - If feasible, work with Drylick Stables as well to potentially resolve the run-down facilities and lease issue
 - Explore grants and funding opportunities for school field trips to Carriage Hill's Arnold Historical Farm and Nature Education Programs



2.4 CONSERVATION PLAN

Based on the [Natural Areas Management Guide](#), a series of park-specific goals have been developed as a part of the site planning process. These goals should be used as a guide during the implementation of the plan to minimize impacts to sensitive habitats and the wildlife that depend on these special places.

The natural areas of Carriage Hill consist mainly of former farmland and woodlots. The park includes several tracts of mature forest, large areas of young forest and old fields recently planted with native hardwoods as part of FRMP's reforestation initiative. Previous land use, i.e. fencerows, agriculture, grazing, etc. has shaped a unique landscape of diverse habitats. One of the largest planted prairies in the district extends north of Cedar Lake, and transitions into mature forest by means of a significant stand of viburnum species.

Carriage Hill hosts a variety of waterfowl at Cedar Lake and North Woods Pond, such as green heron, wood duck, northern shoveler, gadwall, American black duck, redhead, ruddy duck, and ring-neck duck. The wetland boardwalk at the northwest side of Cedar Lake offers immersive viewing opportunities from a unique perspective near the middle of the wetland. Several unique species can be found along the boardwalk.

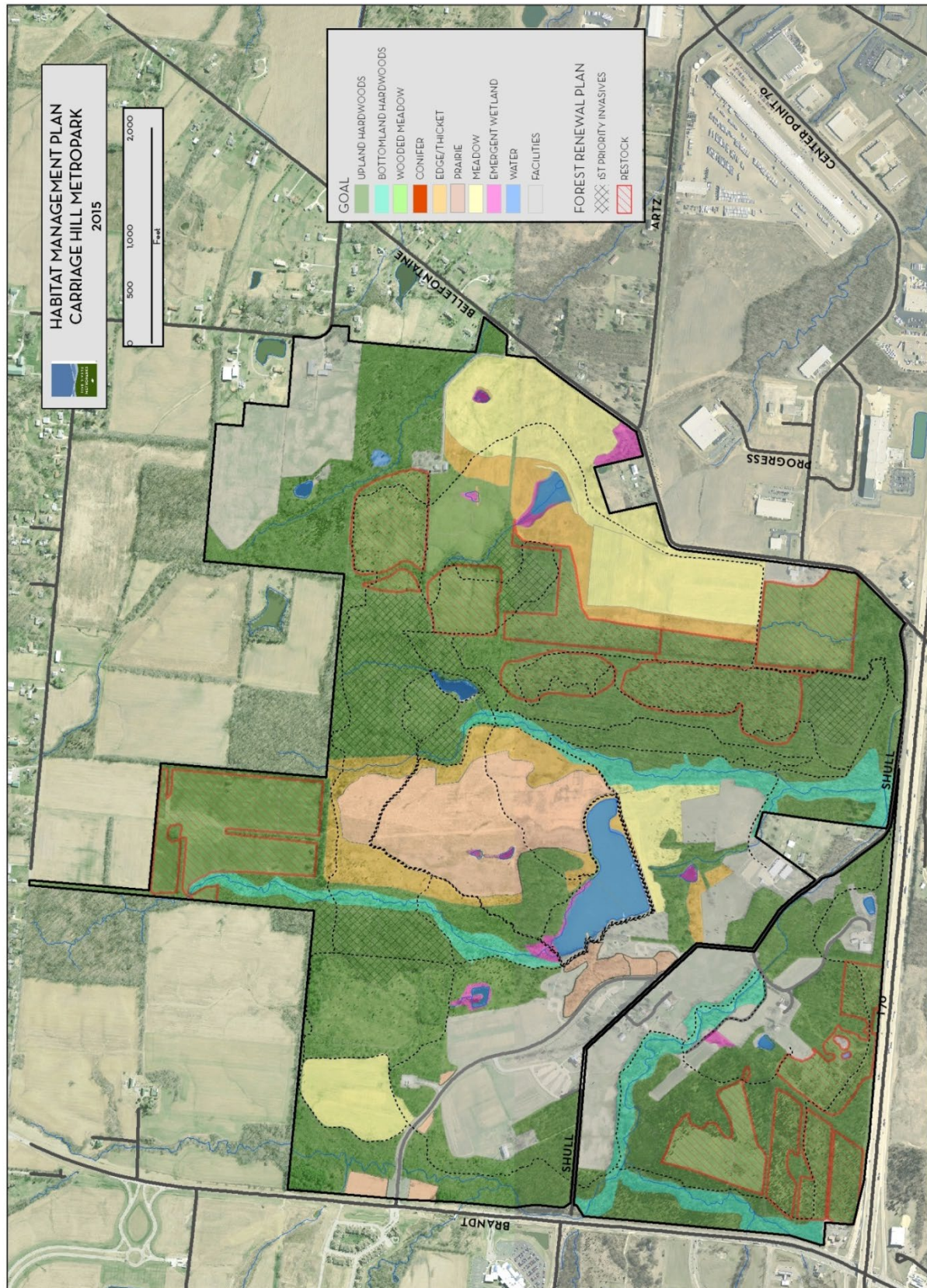
The activation of spaces within natural areas that have not before been promoted for public use will require thorough assessment and a thoughtful approach to minimize impacts.

Conservation goals for the site plan include the following:

- Protect the existing mature woodlands throughout the park. Manage honeysuckle and other invasive species in all habitats as designated
- Permit natural succession to occur in designated old fields and young forests to generate new mature forests and minimize edge effects within large tracts. Reintroduce and plant native mast species in designated areas to augment succession and ensure a diverse future forest
- Assure adequate meadow and prairie habitat for the continuation of the processes of grassland ecology. Maintain the large planted prairie north of Cedar Lake, as well as smaller planted prairies
- Maintain sufficient edge/thicket habitat, a transitional habitat important to many types of wildlife

- Reintroduce a variety of native shrubs in designated areas to promote the re-establishment of these species
- Manage existing ponds and wetlands to benefit wildlife that is dependent on these habitats
- Manage the existing ponds for wildlife habitat and recreational fishing
- Design and maintain hiking and equestrian trails to maximize the experience of the user and integrity of the managed habitats





2.5 INTERPRETIVE PLAN

Carriage Hill MetroPark

- 938 acres in Huber Heights, north eastern edge of Montgomery County.
- Habitats –
 - **Water:** Drylick creek, 14-acre Cedar Lake with fishing pier, farm pond.
 - **Forest:** successional farmland, there was a sawmill on original homestead.
 - **Prairie:** planted prairie with trails.
 - **Farm:** Historic farm depicting the 1880's through diaries of the Arnold family.
 - **Wetland:** on the northeast section of park.
- Historical features and cultural resources – Arnold family homestead original to 1800's, family cemetery, equipment 'graveyard', original cabin, Arnold House, Joseph Arnold house and barn, Neu Bauer Barn (aka Display Barn), Old Shull road
- Equestrian Riding Center is currently the only one FRMP operates; it's unique to the region. There are other private riding facilities south of Montgomery County
- Visitor Center opened in 1994 with museum exhibit area to orient the visitor to the site and its history. The exhibit contains information on the history of the Arnold Family, Dayton in the 1880s, Going to Market, Changes in Agriculture and the Restoration of the Site
- Central area purchased in 1966, it was one of the 1st purchases in the park district. Farm purchased in 1968
- Carriage Hill MetroPark's park typology is classified as a Nature MetroPark

Audience

After site visit and discussions with FRMP staff and stakeholders, the following “Falk Visitor Types” identifies current and potential audiences, as well as activity which are defined below:

- Explorers—motivated by personal curiosity (i.e. browsers)
- Facilitators—motivated by other people and their needs (i.e. a parent bringing a child)
- Experience-Seekers—motivated by the desire to see and experience a place (i.e. tourists)
- Professional/Hobbyists—motivated by specific knowledge-related goals (i.e. a scholar researching a specific topic)
- Rechargers—motivated by a desire for a contemplative or restorative experience

Audiences

Experience Seekers
Facilitators
Hobbyist (at farm)

Potential Audiences

Rechargers
Explorers

Current User Groups

Visit historic Farm (& see animals)
Hiking/Walking/Dog Walking
Fishing
Gatherings at shelters/picnics
Visit Country Store/penny candy
Bird Watching
Horseback riding/horseback tours
School tours

Potential User Groups/Activities

Attract new residents living across entrance
Nature Play enhancements
Engage nearby schools
YMCA – Silver Sneakers Program
Heart Healthy trail loop through park
Cross-country skiing (seasonal)
Cycling destination (i.e. ride instead of drive)
Historic architecture tours/hobbyists

Intended Visitor Experience for Carriage Hill

- Landscaping, basic amenities, and wayfinding provide a sense of comfort and safety during an integrated experience immersed in nature with signs of the historical farm throughout the park. Park is cohesive and feels connected even across Shull Road After improvements, crossing the street is no longer a barrier
- Visitors stay for at least two hours and leave with a positive image of FRMP

What makes this park special?

Park has very unique resource of an 1880's historic site and FRMP's only equestrian center located in a developing residential area.

Neighborhood Population Information

- Median age 38.5 within Huber Heights area. To the north, east, and west, median age range is 40-48
- [YMCA](#) nearby hosts daily M-F Silver Sneaker classes, youth summer camps, and other programs

See full interpretive plan for details.

Source: <http://webapps-cdn.esri.com/Apps/location-strategy-for-business>

FRMP System-Wide Themes/Storylines

An interpretive theme is the overarching message. It is more detailed than a broad topic; it is a complete thought in one to two complete sentences. The theme may be used verbatim in signage or verbally in talks, or it may be unspoken but guide the general feel the project aims to have for the visitor experience on site. A theme will help answer the "so what?" – "the moral of the story." Themes connect tangibles: those things you can touch, see, feel, smell, and taste with intangibles, and those things that are symbolic or metaphoric

Theme: A succinct, central message about a topic of interest that a communicator wants to get across to an audience. (Ham, 2013)

StoryLine: Part of the Thematic hierarchy-Theme-Sub-theme-storyline, Storylines are the details of the interpretive content.

Central Themes:

Each park within the FRMP system tells a story from the past

Protect natural areas, parks and river corridors, and promote the conservation and use of these lands and waterways for the ongoing benefit of the people of the region

Themes for the Park:

- Each park tells a natural or cultural story from the past

- Active conservation efforts protect lands for future generations
- Through time, Carriage Hill has been a living example of people being changed by nature and nature being changed by people

Sub-themes:

- Families have been living their lives close to nature at Carriage Hill for over a hundred years
- The lives of the Arnold family influence our lives today
- Carriage Hill is the first property purchased with a community vision for greenspace encircling Dayton
- A sustainable future is achieved through learning skills from the past

Storylines specific to Carriage Hill MetroPark:

- Slow down and feel the way life moved during the 1880s. Learn patience/respect for slower methods and ways
- Experience a real farm, where real people lived. Generations of the Arnold family lived and died here
 - Life events from the Arnold's diaries, their interactions on the farm and in Dayton community
 - Joseph Arnold house was parcel of property Joseph purchased from his father
 - Allen family neighbors of the Arnolds and their barn is still on site today
- Drylick run property, now the central area of Carriage Hill where visitors enjoy Cedar Lake, a planted prairie, and hiking was the first purchase of the Dayton-Montgomery Park District (now known as Five Rivers MetroParks). The farm parcel was purchased a few years following
- Learn about the history of the farm and reflect on one's own heritage
 - Carriage Hill presents a tangible way to experience history that helps put past methods in context
- Agriculture is very much a part of conservation as it is man's manipulation of the land

Other opportunities to connect to agency-wide themes:

- Parks make our lives healthier and happier
- A unique adventure awaits

Partnership opportunities:

- YMCA – Silver Sneakers Program
- Sinclair College
- UD Lifelong Learners
- Farmers Markets
- Future Farmers of America
- Urban Farmers
- German Baptists
- 4-H Clubs

Interpretive Media Recommendations (*optional with partner funding):

Facilitated programs by topic:

- School tours
- Fishing for beginners
- Bird ID classes/ bird watching meet up groups
- Youth and family programing for younger residents surrounding park
- Silver Sneakers opportunities partner programming on paved paths
- Integrated historic farm and nature area guided tours/ self-guided tours
- Equestrian rides (some including historic site)

Self-guided interpretation:

- 8 interpretive waysides:
 - Allen Barn story
 - Historic Farm area

- Three along new Cedar Lake boardwalk
- At least three around Cedar Lake re: prairie, lake, wetlands.
- 2 new nature play areas. *(not currently funded)*

Exhibits self-guided:

- Historic Farm Trail interpretation (ex. at Joseph Arnold house, equipment graveyard, family burial plot, old farm orchard, etc.)
- Historic Farm (HF) plaza near restroom.
- Visitor Center (VC) Exhibit Updates
- Interpretive media series along cobble walk (VC to HF plaza) to step visitors back in time. Evaluate panels or changeable exhibit method for objects.

Opportunities:

- Interpretive media at display /educational gardens. Connect visitor to heritage crops /heritage recipes *

2.6 PROGRAMMING PLAN

Current Programming

Carriage Hill MetroPark engages visitors in a variety of ways. The programs, which are directed at specific audiences, and interpretive elements provided in the park are listed below.

Carriage Hill MetroPark provides amenities including ample parking, comfortable restroom facilities, and picnic shelters to meet the basic needs of program participants and offers a variety of programming experiences because of its diverse habitats and the historic farm. Currently, participants of all ages have an opportunity to develop a personal connection to nature through Outdoor Education, Outdoor Recreation, and Cultural and Historical Resources programming throughout the park and historic farm. Cultural and Historical Resources staff dedicated to the historic farm provides a variety of popular demonstrations and events throughout the year.

Youth & Teens

School group tours are in high demand for both the historic farm and the natural areas because of the connection to content for standardized tests. Schools visit from Miami, Darke, Greene, and Montgomery Counties. During school group tours, youth are guided by staff, volunteers or self-guided through hands-on history, ecology, and pond experiences. The program, “Morning Chores” gives youth and teens the opportunity to help staff with a variety of historic farm chores while learning about a day in the life of a farm hand. Youth learn about active outdoor lifestyles during Outdoor Cookery Classes and Park Adventures Camp.

Families

Offered year-round, Conservation Kids programming empowers children to become conservationists through a three-step program progression. Conservation Kids programming at Carriage Hill MetroPark consists of both Discover and Act level programming where participants explore the pond, wetland, and prairie, as well as learn about birds and pollinators. Families learn about fishing basics and safety during Passport to Fishing.

Adults

At the Historic Farm, adults are immersed in hands-on experiences learning 19th century cooking, preserving, sewing, and farming methods. Park-wide, adults engage in active outdoor lifestyles with like-minded peers year-round during the Adult Nature Walks and hikes with Dayton Metro Hikers.

Multiple Audiences

The Historic Farm offers a variety of demonstrations, tours, and events year-round to engage the public in 19th century farming and lifestyles. Nineteenth Century Farming Demonstrations include biscuit making, butchering, haymaking, and threshing. Popular events at the farm include A Grand Old Independence Day, A Holiday Evening at Carriage Hill, A New Country German Farm Life, and Carriage Hill Pancake Breakfast. The Country Fair and Draft Horse Days are the highlights of the Historic Farm annual calendar. Park-wide, participants aged 12 years and up can try their hand at fly fishing during “Try Fly Fishing”.

Interpretation

Carriage Hill Visitor Center contains museum style exhibits installed in the 1990s. The exhibits include interpretive panels and artifacts focusing on the history of the farm, Dayton in the 1880s, and agriculture in the 19th century. The original intent was for the visitor center to be a “gateway” to the historic area. Park-wide, there are kiosks at Cedar Lake and Red Wing Shelters to welcome first time visitors and help to orient them to the trails and amenities. A kiosk style bulletin board near the Visitor Center parking lot interprets Carriage Hill Historic Farm farming practices. Formerly, the Historic Farm Trail included interpretation on the Arnold graveyard and the equipment graveyard, which will need to be replaced as budgets allow.



Aspirational Programming

Renovation to the historical structures, the Visitor Center, and the trails along with the addition of nature play will improve the experiences for tour groups, program participants, and visitors. As programming and interpretive efforts and resources evolve, activation of the new amenities and creating a recreational and educational use culture in the parks, whether through interpretation, programming, or independent use, will be the primary goal. This goal will be realized in various ways, depending on the audience. Management of the historic structures will be included in the Cultural and Historic Resources Plan once it is completed.

Audiences

Youth & Teens

Visitor Center, Historic Farm, Cedar Lake boardwalk, and hiking trail improvements along with nature play additions will allow Carriage Hill MetroPark to continue to be a destination school site for the region, as well as an outdoor classroom for underserved local schools in Huber Heights.

Family

Renovated historic structures and visitor center, the addition of nature play sites and interpretive exhibits, as well as improved trails and boardwalk will provide family programming and family wellness opportunities

Adults

Improved trails will provide a better experience for seniors, those with disabilities and other adult walkers. Allen Barn enhancements and renovation may provide a larger venue for square dances, weddings and other rental opportunities. Cedar Lake boardwalk enhancements will provide better fishing and nature observation experiences for adults of all abilities.

Multiple Audiences

Historic Farm renovations, interpretive exhibits, and trail improvements will enhance weekend farm demonstrations and events for all visitors.

Interpretation

Blacksmith Workshop, Icehouse, Engine Shed and Woodshop, Log Barn and Farm Equipment, Water Pump, Grape Trellis, Corn Crib, and Windmill are all interpretive resources that will help the visitor better connect to the Historic Farm stories.

2.7 SITE PLAN

Carriage Hill MetroPark offers a variety of use areas which will help organize and orient visitors to the array of opportunities available for them to explore. The Visitor Center primary use area is the front door to the park where new visitors will experience the park for the first time. As park users become familiar with the park, visitors can begin at other use areas where basic amenities and unique and varied activities are provided. These use areas will be connected by park trails and the central spine of Shull Road, allowing users to create diverse experiences each time they visit. The use areas for the park have been redefined to include the following:

- Visitors Center
- Historical Farm
- Equestrian Riding Center
- Joseph Arnold Farmstead
- Cedar Lake Area
- Red Wing Area
- Allen Barn

A second important factor driving the development of this and all FRMP site plans is the Power of 10+, a concept, developed by Projects for Public Spaces, to evaluate and facilitate place making at multiple scales. Places thrive when users have a range of reasons—ten or more—to be there. These might include a place to sit, playgrounds to enjoy, art to touch, music to hear, food to eat, history to experience, and people to meet. Ideally, some of these activities will be unique to that particular place, reflecting the culture and history of the surrounding community. The following activities were identified in the planning process as appropriate for this park:



- Hiking
- Nature Play
- Fishing
- Horseback Riding
- Equestrian Lessons
- Historic Farm Visit
- Country Store
- Picnicking
- Bicycle Trail
- Overnight Stays at the Bed and Breakfast or Barn
- Special Events
- Connecting to Nature
- Have a Party in the Allen Barn
- Learn Farm Skills
- Interact with Farm Animals
- Learn About Steam Engines
- Collect Sap and Make Maple Syrup
- Fitness Opportunities

Key Site Plan Recommendations

With a foundation of the two concepts described above, key site plan recommendations were developed. Many of these recommendations have resulted in specific projects that are prioritized for the capital improvement plan in Section 2.1. The full [site plan](#) provides significant detail not provided here.

Park-wide Recommendations

Equestrian Trail Improvements

Carriage Hill MetroPark will continue to serve as the primary equestrian destination in the system. Improvements to the system include creating a more formal trail head with basic amenities at the equestrian parking area such as a restroom, water, mounting blocks, tie off areas and picnic facilities. Overall trails will be expanded to create stacked loops and locations where equestrian trails come along side of hiking trails to allow different users to come into proximity to each other. Trails should also provide safe access to the various amenities in the park. In addition, event and cross-country elements will be added to the trail system to further expand on the equestrian offerings at the park.

Trail Improvements

The trail system will be improved to create a stacked loop system of sustainable trails to allow visitors a variety of choices, destinations and difficulty. A new paved or hardened trail will be installed around Cedar Lake to allow for a variety of uses including school group visits, casual strolling and fitness. The trail system will be modified and improved to ensure visitors have an easy to understand system of trails which provide access to all the unique parts of the park. The trail system will remain separated from equestrian facilities; but, will come alongside of equestrian trails to allow users to experience horses in a safe and positive manner and to raise awareness of the equestrian use at the park.

Improve Wayfinding

Currently, the park has at least three distinctive areas causing confusion and a lack of awareness of what is available in the park. Improved signage is needed along Shull Road to alert and direct visitors to all of the destinations within the park. Wayfinding also needs to be incorporated at each use area promoting the other options available in the park.



Circulation Recommendations

Main Entry Modifications

The park edge along Brandt Pike needs to be enhanced to reflect the agricultural and natural landscape that is occurring inside the park to help to draw visitors to the park. The main entry should be improved to include curbing to eliminate damage from turn arounds and be enhanced with elements consistent with the Carriage Hill vernacular such as fencing and typical farm plantings. A paved pedestrian pathway should be added to promote access to the residential areas across Brandt Pike. Mow patterns should be modified to create a more deliberate and visually appealing edge.

Shull Road Modifications and Vacation

Shull Road currently serves as the primary vehicular access to the park but also as a connector between Brandt Pike and Bellfontaine Road. Long range plans include closing the east end of Shull Road to public traffic near the Equestrian Riding Center to eliminate the higher speed cut through traffic making it safer for equestrian and pedestrian traffic in the park. Access should remain to Bellfontaine Rd for emergency and staff maintenance. Trail crossings should be enhanced to alert drivers and make the crossings much safer. A new entry and drop off lane should be added to the parking area at the Visitor Center to align with the parking area at Red Wing to help visually promote the connection between the two sides of the park. A new section of roadway is proposed at the Equestrian Riding Center to allow for the public road to be properly terminated and allow better access and proper parking. Tree plantings and vegetation management are proposed to enhance views coming into the park. Plantings of Sugar Maple are also proposed along the historic farm to be used for maple syrup production.



Old Shull Road Multi-Use Trail Connection

The old road bed of Shull Road still exists between the Visitor Center and Brandt Pike. This alignment should be improved with a paved multi-use trail to connect the Visitor Center on the east and the YMCA and residential areas to the west and ultimately to Taylorsville MetroPark and the rest of the regional trail network. The connection between Shull Road and the Visitor Center should be developed using the farm and park vernacular to appear as a historic farm lane. This connection can be used to introduce users to the historical past of the park.

Carriage Hill MetroPark Master Plan 2018



Illustrative Site Plan Carriage Hill MetroPark

Huber Heights, Ohio



SCALE: 1"=1000'

0' 500' 1000' 2000'

ISSUE DATE: September 29, 2017
All drawings are preliminary and subject to change.
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PREPARED FOR:
Five Rivers
MetroParks
Dayton, OH



Illustrative Site Plan - Enlargement Area Carriage Hill MetroPark

Huber Heights, Ohio



SCALE: 1"=500'

0' 500' 1000' 2000'

ISSUE DATE: September 29, 2017
All drawings are preliminary and subject to change.
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PREPARED FOR:
Five Rivers
MetroParks
Dayton, OH

Use Area Recommendations

Visitor Center and Historic Farm Walk

The Visitor Center is the primary use area for Carriage Hill MetroPark and all new visitors should be directed here to begin their park experience. Once visitors are more experienced with the park, other use areas can be used to access the rest of the features of the park. The Visitor Center requires a fairly major update including the interpretive message and displays, but also to reconfigure the building to serve as a location for special events and meetings. The lower level containing the offices, Country Store, concession area and meeting room also need to be reconfigured to more efficiently serve the needs of the park. As outlined above, the Country Store should focus more on period products and those produced on site to create a unique and memorable experience for park visitors. In addition, the Visitor Center should be a launching point to help visitors make the transition from current time period to that of the 1880s where the historic farm is set. To assist this transition, a new historic farm walk should be developed to connect the Visitor Center to the historic farm area. A full interpretive program should be developed along the walk to allow visitors to understand how the farm looked and operated and offer opportunities to try typical farm games and tasks. A new farm themed nature play area is also proposed near the Visitor Center. In addition, a new equestrian parking area should be developed to allow horses to be parked in a safe manner which allows riders to access the Visitor Center and its amenities.

Historic Farm Area

The historical farm area will continue to be maintained in its 1880s format with renovations and repairs made to the buildings using period techniques. Efforts should be continued to ensure this time period flavor is maintained for visitors to this part of the park. This includes removing the existing parking lot near the restroom and returning it to useable pasture so that views from the park are supporting the goals of the farm. Pedestrian connections should be extended along the axis of the historic farm walk to extend to the Equestrian Riding Center and also make a connection to the Cedar Lake use area. Volunteer facilities currently located in the house should be upgraded or moved to the Visitor Center to provide a higher quality experience for the volunteers.

Equestrian Riding Center

Current riding is active with lessons and trail rides during the warmer parts of the year, but is staffed year-round to care for the horses. Improvements proposed include new buildings to provide additional classroom and meeting space, improving the indoor riding ring and construction of a new covered riding ring. These facilities will provide the ability to conduct lessons and equestrian activities year-round. Additional improvements to the existing outdoor riding ring and pasture areas are also proposed.





Allen Barn Area

The Allen Barn is a large beautiful structure which is being used currently for storage of primarily historic farm implements with the intention of using them sometime in the future for demonstration or display. The site plan proposes constructing a new cold storage facility near the current operations facility to house this equipment and open the barn for use as a special event facility. Restrooms and vehicular access will need to be added to make the facility successful, but the overall intent for the barn itself is to remain rustic with minimal improvements. The barn offers a unique venue for special events, such as for weddings and parties.

Cedar Lake Area

Cedar Lake is a primary destination for many park visitors to fish and enjoy a lake environment. Proposed improvements, in addition to the perimeter path described above, include reshaping the lake to create a more natural overall feel and providing better direct access to the lake itself. These improvements include outcroppings and decks for fishing and free-range play as well as replacing the aging boardwalk on the north end of the lake. Access to the lake is critical for programming at the park for the numerous visits by school age children to learn about lake environments. Improvements to the current parking areas at the Cedar Lake and Red Wing areas are also proposed with additional basic amenity upgrades to enhance rentals and drop in use in this part of the park. A new nature play area is proposed near the Red Wing Shelter.

Joseph Arnold Farmstead Area

This portion of the historic farm area is proposed to be further activated and provide additional amenities to the park. In addition to the various buildings, this part of the park contains the Arnold family cemetery, an equipment graveyard, a small farm pond and an orchard. The homestead and barn are proposed to be renovated to accommodate special event activities, primarily overnight stays at the park. The proximity to the highway precluded the plan from recommending camping due to the noise in the park. The home and barn offer a unique opportunity for park visitors to spend the night and have breakfast made from food produced on the farm. The house would offer more traditional accommodations while the barn offers a more rustic overnight experience. Proposed nature play around the creek is also proposed for this area. Improvements to the trails in this area are proposed to better interpret and experience the amenities this part of the park provides.

Short Term Recommendations

Some recommendations could be achieved at a relatively low-cost using staff resources:

- Create or improve free range play opportunities in the park to supplement future nature play. Example locations include the creek area behind the historic farm area and the boardwalk at Cedar Lake
- Work to incorporate products that are already being produced or could easily be produced on site in the Country Store
- Create accessible fishing spots at Cedar Lake using natural materials
- Create fitness stations using found natural materials in the park. Incorporate healthy trail signage
- Explore opportunities to build the volunteer base by mentoring or training about special farm skills.... Who doesn't like to smell delicious?
- Propagate Sugar Maple in the tree program to be planted in the park to ensure the future of syrup production
- Conduct a deep cleaning of the existing buildings and facilities using volunteers



Level of Service Amenities

- The following amenities outlined in the CMP are included in the site plan:
 - (1) Reservable Picnic Shelters (Small 1-25)
 - (0) Reservable Picnic Shelters (Medium 26-50)
 - (0) Reservable Picnic Shelters (Large 51-100)
 - (1) Outdoor Pavilions (100+) (Equestrian Center Covered Arena)
 - (2) Nature Play Playgrounds
 - (1.6) Paved Trails (Miles)
 - (0) Soft/ Non-Paved Trails (Miles)
 - (2.2) Nature/ Hiking/ Backpacking Trails (Miles)
 - (3) Equine Trails (Miles)
 - (0) Mountain Bike Trails (Miles)

2.8 LAND PROTECTION PLAN

FRMP's [Land Protection Plan](#) (link once LPP is done) identifies priorities for land protection based on criteria addressing conservation, the park, and the user. Many land protection priorities for Carriage Hill MetroPark focus on park criteria, particularly completing the park's natural boundaries and completing trail connections. Specific recommendations regarding land protection to achieve park needs and associated attainment strategies are listed below:



- Acquire the residential inholdings within the park as they become available
- Acquire or place conservation easements on the large agricultural properties on the north side of the park to prevent development and further erosive damage from occurring in the park

Currently, Carriage Hill MetroPark is experiencing erosion issues as a result of increased development occurring around the park. Protection of the streams, wetlands and lake should remain a priority and efforts should be made to explore mitigation options. Views to the north should also be preserved to ensure visitors experience an agricultural feel while on the property without the intrusion of suburbia or other development to the extent possible. Relationships with adjoining land owners should be developed or maintained in order to help secure future purchase or protection opportunities.



SECTION 1: EXECUTIVE SUMMARY

1.1 BACKGROUND AND PURPOSE

In 2016, Five Rivers MetroParks (FRMP) completed a [Comprehensive Master Plan](#) (CMP) to guide the agency for the next ten years. The plan included extensive public feedback from intercept and online surveys, focus groups, public meetings, individual interviews with community leaders and a formal statistically valid survey. Studies were conducted to benchmark FRMP to other outstanding park agencies across the country. The resulting plan included several tools to guide FRMP including new park typology, level of service standards, and a detailed implementation plan. A primary recommendation in the implementation plan was to develop new master plans for each MetroPark.



In 2016, FRMP began developing site plans for several parks and conservation areas as the first step in developing full, ten-year master plans for each location. These plans ensure the organization's three pillars, conservation, education and recreation, were foregrounded and interconnected. To support the planning process, a comprehensive set of [Planning Guidelines](#) were developed to help ensure the integration of the three pillars. The park master plans consist of several components that will guide planning and implementation of the parks' functions:

- Conservation, maintenance, programming, interpretation, and business planning
- Capital investment and phasing
- Operational impacts and budgets

1.2 MASTER PLANNING PROCESS

Development of the Carriage Hill master plan began with the development of the site plan. A Core Team of approximately 15 FRMP employees whose work is key to the success of the park was formed to provide direct input to the process. A landscape architectural firm with experience in park planning, Hitchcock Design Group, from Chicago, Illinois was selected to lead the effort. A full two-day work session with these two groups gathered input from staff, volunteers, the public, and key stakeholders. They visited key areas to gain a detailed understanding of the park. Two public meetings were held during the two-day session to gather input and understand the needs of park users.

From this two-day work session, the consultant developed a park program which would drive the evolution of the site plan. After input on the program from the Core Team, the consultant prepared a series of site plan alternatives to explore how the program elements could be incorporated into the park. The core team evaluated the alternatives and provided direction to the consultant toward a preferred site plan. This preferred site plan was reviewed by the core team and the public and revised to reflect their comments, and a cost estimate was developed.



As part of the master planning process and in conjunction with the site plan development, a variety of other plans for Carriage Hill were developed or updated: conservation, interpretation, programming, and land protection plans. These five plans along with the planning guidelines provide comprehensive guidance in the evolution of the parks. Referencing those plans and the CMP, staff identified a list of priority capital projects for the next ten-year period. Staff then developed the

operational cost and revenue estimates for those priority projects to reflect the comprehensive resources required to implement the plans' recommendations. This information will be incorporated into the agency's Capital Improvement Plan (CIP) along with capital projects for other parks to chart a course of continual evolution of the parks toward the community's needs and desires.

This ten-year park master plan will be reviewed and updated in five years. After ten years, MetroParks will determine whether a new park master plan is needed or a second update to this plan will be adequate to provide direction for the park's future.

1.3 MAJOR RECOMMENDATIONS

Several components of the [site plan](#) (See Appendix 4.7 for the complete site plan) include projects that respond to some of the highest priorities in the CMP, including taking care of existing assets, providing basic amenities, and increasing trail and nature play opportunities:

- Improve and expand equestrian facilities throughout the park to make Carriage Hill MetroPark the primary equine facility for FRMP.
- Create a stacked loop trail system to provide a variety of trail opportunities for visitors.
- Improve wayfinding throughout the park to connect visitors to all feature areas of the park.

Major Recommendations

The site plan includes several components of the long-term vision for the park. FRMP should constantly work towards exploring opportunities to evolve toward these concepts as part of the capital projects that are implemented.

- Create a main pedestrian axis connecting the visitor center to the historic farm and the riding center.
- Improve the arrival experience for visitors including enhancing the main entrance and the park frontage along Brandt Pike.
- Vacate Shull Road past the Riding Center to create a safer park experience.
- Connect the park to the regional bikeway system along the old Shull Road roadway from the visitor center to Brandt Pike and on to Taylorsville MetroPark.

Other Notable Projects

The plan also makes recommendations to explore additional improvements for the park including:

- Renovate the visitor center to update the interpretive experience and make the center more flexible for a wide variety of uses.
- Renovate the Allen Barn to create a special event space.
- Continue to maintain the historic farm core of the park to tell the agricultural history of the region.
- Improve the riding center to provide more year-round opportunities.
- Explore and develop opportunities to utilize the Joseph Arnold Homestead including expanding the historical interpretive story and overnight experiences for visitors.



SECTION 3: IMPLEMENTATION

3.1 INTRODUCTION

The Carriage Hill MetroPark [Site Plan](#) identifies a comprehensive proposal and [cost estimates](#) for the improvements at this MetroPark. From those recommendations, it was necessary to prioritize the many proposed projects. Applying priorities established in the Comprehensive Master Plan, MetroParks established [Capital Project Criteria](#) to identify projects that will be incorporated with other projects throughout the district into the agency's Capital Improvement Plan (CIP). To reflect full project costs of the prioritized projects, operational cost estimates were developed for conservation, maintenance, programming, interpretation, and law enforcement, as well as businesses and philanthropic revenue. These operational costs and revenue will be evaluated alongside the capital costs to identify the projects' placement in the CIP to identify year-by-year investment.

3.2 CAPITAL IMPROVEMENTS

The proposed site plan represents the long term vision for the park. The plan proposes a number of capital projects that will move the park toward that long term vision. In this master plan, specific improvement projects have been identified as priority projects for the upcoming ten year period. Those projects, listed below, include priority repair and replacement projects which were identified in the comprehensive master planning process and, when applicable, include the furniture, fixtures, and equipment investments necessary to provide a complete project.

- Visitor Center - building renovation
 - Anticipated Budget: \$621,000
 - Budget includes structural repairs, exterior shell repairs, mechanicals and interior structural modifications related to renovations.
- Visitor Center - upgrades
 - Anticipated Budget: \$1,159,200
 - Reconfigure the interior of the building to upgrade interpretive experience, allow the building to be used for special events and meetings and re-work the lower level to enhance the visitor experience.
- Operations Building - new restroom
 - Anticipated Budget: \$103,500

- Add a second restroom in order to provide unisex restrooms
- Operations Building - general maintenance
 - Anticipated Budget: \$81,764
 - Budget includes anticipated general repair and replacement of the operations building
- Operations Area – new cold storage building
 - Anticipated Budget: \$924,109
 - Construct a new cold storage building to house materials from the Allen Barn and other general operations needs
- Allen Barn - renovation and enhancement
 - Anticipated Budget: \$986,762.10
 - Renovate the Allen Barn for a special event venue. Includes restroom, vehicular access and code upgrades. Project assumes no significant heating and air conditioning is included in the project.
- Park Wide - hiking trail enhancements
 - Anticipated Budget: \$2,122,446.35
 - Upgrades and additions to the existing trail system. Assumes new trail master plan, development of sustainable trail system and approximately 1.5 miles of additional trail.
- Park Wide - equestrian trail enhancements
 - Anticipated Budget: \$2,639,320
 - Upgrades and additions to the existing trail system. Assumes new trail master plan, development of sustainable trail system and approximately 1.5 miles of additional trail.
- Historic Farm Area -historic farm buildings renovation and stabilization
 - Anticipated Budget: \$2,051,370
 - Budget includes general repair and replacement, structural repairs and rehabilitation of the historic structures in the historic farm area.

- Historic Farm Area- historic farm trail
 - Anticipated Budget: \$229,908
 - Development of the trail connection between the Visitor Center and the historic farm area.
- Equestrian Center riding ring improvements
 - Anticipated Budget: \$442,673.09
 - Upgrade of the existing outdoor riding ring, replace and relocate pasture fencing to accommodate new riding ring.
- Equestrian Center- new restroom
 - Anticipated Budget: \$64,900
 - Construct a new restroom at the Equestrian Riding Center
- Historic Farm Area- nature play
 - Anticipated Budget: \$117,300
 - Construct a farm themed nature play area near the Visitor Center
- Cedar Lake - nature play
 - Anticipated Budget: \$696,900
 - Construct a nature play facility near the Red Wing Shelter
- Cedar Lake - boardwalk renovation
 - Anticipated Budget: \$411,792
 - Replace the existing wooden boardwalk at the north end of Cedar Lake

In addition, all pavement maintenance and repair work required in the parks will be covered by the district wide pavement management program plan.



3.3 PARKS AND CONSERVATION

The Parks and Conservation Department staff is responsible for the care and maintenance of facilities and natural areas within Carriage Hill MetroPark. This work includes daily cleaning and inspection of areas, completion of general repairs, and completion of conservation tasks that protect the biodiversity of natural areas and are recorded and tracked in the Annual Habitat Action Plan. The completion of the routine tasks outlined below ensure that all areas are maintained to FRMP standards for safety, cleanliness, and appearance and that park visitors have high quality experiences.

Current Primary Routine Tasks:

- Park Clean-up
 - Litter pick up
 - Bathroom cleaning
 - Shelter cleaning /checks
 - Drinking fountain cleaning /checks
- Roadway/parking lot/paved trail blowing
- Mowing (excluding trails)
- String trimming
- Natural surface trail trimming/mowing/tree removal
- Currently ash tree removal/cleanup is routine
- Park Inspections
- Equipment/Vehicle repairs and service
- Visitors Center cleaning
 - Daily-sweeping, mopping, trash removal etc.
 - Weekly-dusting, window cleaning etc.



- Quarterly-floor stripping, buffing
- Historic Farm Area (Daniel Arnold)
 - Litter pick up
 - Bathroom cleaning-Volunteer house
 - Trash removal
- Riding Center
 - Trash removal
 - Mowing and string trimming
 - Monthly inspections of AED and fire extinguishers

Current Primary Special Tasks:

Parks and Conservation staff also complete work tasks that may be completed annually or monthly and require more time and attention than some of the routine tasks. These tasks may be tied to weather events or special projects. In some cases, special tasks involve timing in relation to the weather or events within the facilities. Other considerations for this work could include scheduling to reduce negative impacts on plant communities or animal populations.

- Snow removal-hand and truck
- AHAP plan mowing
- Pressure washing shelters and bathrooms
- Park inspections
- Fixture maintenance
 - Plumbing repairs
 - Picnic table repairs
 - Trash can painting

- Grill maintenance
- Gate maintenance
- Structure repairs
- Hazardous tree removal
- Routine garden maintenance – Visitors Center plaza
 - Weeding
 - Mulching
 - Raking
 - Planting
- Chemical (herbicide) application
- Roadside berming
- Clearing drainage tiles
- Tree planting/watering/mulching
- Facility maintenance – Carriage Hill, Visitors Center and Riding Center
- Winterizing and opening water systems and bathrooms
- Drylick stables
 - Inspections
 - General Maintenance

Expected Increases to Primary Routine Tasks:

Upon review of the priority projects in the proposed site plan it is projected that an increase of 975.66 labor hours annually would be needed to complete primary routine tasks. A breakdown of projected increases is outlined by project below and equates to .47 full time equivalent staff (FTE). The detail of these projections can be viewed in the [costing spreadsheet](#) that was produced as a part of the park master plan process.

Project	Projected Hours	FTE Equivalent
Operation building-new restroom	90.75	.04
Operations area – new cold storage	63.36	.03
Allen Barn – renovation and enhancement	235.69	.11
Park wide – hiking trail enhancement	34.5	.02
Park wide – equestrian trail enhancement	34.5	.02
Historic Farm Area – Historic Farm trail	84.7	.04
Equestrian Center – new restroom	181.5	.09
Historic Farm Area – nature play	125.33	.06
Cedar Lake – nature play	125.33	.06
Grand Total	975.66	.47

Expected Increases to Primary Special tasks:

Upon review of the priority projects in the proposed site plan we project an increased need of an additional 396.61 hours to complete special tasks. A breakdown of projected increases is outlined by project below and equate to .19 FTE. The detail of these projections can be viewed in the costing spreadsheet that was produced as a part of the master plan process.

Project	Projected Hours	FTE Equivalent
Operation building-new restroom	2	.001
Operations area – new cold storage	2	.001
Allen Barn – renovation and enhancement	67.8	.03
Park wide – hiking trail enhancement	112.36	.05
Park wide – equestrian trail enhancement	125.45	.06
Historic Farm Area – Historic Farm trail	19	.01
Equestrian Center – new restroom	8	.003
Historic Farm Area – nature play	30	.01
Cedar Lake – nature play	30	.01
Grand Total	396.61	.19

One Time Tasks:

Staff also identified plant surveys as a onetime task needed to support the implementation of the proposed site plan. This task would likely be required of Parks and Conservation staff as part of the construction of new amenities. These numbers are not included in the staffing projection that is included in the next section.

- Plant surveys- 1016.16 total hours

Below are the current staffing levels for park and conservation operations at Carriage Hill MetroPark

- Park Manager- Carriage Hill
- (2) Full-time Technicians
- (1) full-time Restoration Specialist
- (3) Part-time Technicians
- (1) Part-time custodial Technician
- (2) Seasonal Technicians

- Conservation support provided by the north conservation team.

Summary of Operational Impacts:

Based on the spreadsheet that identified tasks for each project in the master plan staff identified an estimated 1,372.27 hours of additional annual labor needs that would be created for Parks and Conservation staff. These operational impacts total .66 FTE Technicians.



3.4 PROGRAMMING AND INTERPRETATION

Programming and Interpretation Projection

The Outdoor Connections Department currently engages visitors in a variety of ways at Carriage Hill MetroPark. The programs, which are directed at specific audiences, and interpretive elements provided in the parks are inventoried below.

Programming Projection

As proposed enhancements outlined in the master plan are completed, programs will be evaluated to ensure they are relevant to the public and to ensure financial sustainability for Outdoor Recreation, Historical and Cultural Resources, or Outdoor Education.

Interpretation required falls into two categories:

1. Wayside self-guided are single-style interpretive media, such as an interpretive panel or other interpretation method, connecting visitors to a park feature. Priority projects that include wayside self-guided sites are Allen Barn Renovation and Enhancement, Historic Farm Buildings Renovation, Historic Farm Trail, and Cedar Lake Boardwalk and Cedar Lake trail. A nature play site at the Historical Farm also includes a wayside self-guided experience.

2. Wayside Exhibit is an interactive experience that includes a variety of interpretive media and may include interpretive panels and interactive displays designed to provoke curiosity in visitors. Priority projects that include wayside exhibits are the renovation of Visitor Center exhibits, Visitor Center Interpretive Point, and Historic Farm Interpretive Point. The nature play site at Cedar Lake includes a Wayside Exhibit because of the scale of the playscape installation.

The site plan identifies capital costs for interpretive elements in many priority project areas indicated with an asterisk (*.) Capital costs for interpretation not identified in capital cost estimates are based on interpretation industry standards. Corresponding one-time personnel costs to develop these interpretive elements have been established as well. Ongoing operational expense for the interpretive elements prioritized for site plan implementation focus on repair and replacement costs and the associated personnel costs also based on interpretation industry standards. The capital and operational costs for these interpretive elements, matrixed by the individual project, is summarized in the table below.

**Capital for interpretation identified in Cost Estimates for projects*

Interpretive Cost Projections

The site plan proposes significant additions to interpretive elements throughout the park. The improvements outlined below focus on areas of the park prioritized for improvements. The full Interpretive Plan for the park can be found in Section 2.5 of the appendix.

The site plan identifies capital costs for interpretive elements in priority project areas. Corresponding one-time personnel costs to develop these interpretive elements have been established below. Ongoing operational expense for the interpretive elements focus on periodic repair and replacement costs and the associated personnel costs. The capital and operational costs for these interpretive elements, matrixed by the individual project, is summarized in the table below.

Interpretation Priority Project Costs

Project	Capital Development Costs		Maintenance Costs	
	Materials	Personnel	Materials	Personnel
Visitor Center Building Renovation	NA	NA	NA	NA
Visitor Center – Upgrades Exhibit-Wayside Exhibit	*	\$17,798.84	*	\$3,750
Operations Building – New Restroom	NA	NA	NA	NA
Operations Building – General Maintenance	NA	NA	NA	NA
Operations Area – New Cold Storage	NA	NA	NA	NA
Allen Barn – Renovation and Enhancement - Wayside Self-Guided	*	\$3,512.93	*	\$150
Park Wide – Hiking Trail Enhancements	NA	NA	NA	NA
Park Wide – Equestrian Trail Enhancements	NA	NA	NA	NA
Historic Farm Area – Historic Farm Buildings Renovation and Stabilization - Wayside Self-Guided	*	\$3,512.93	*	\$150
Historic Farm Area – Historic Farm Trail				
Historic Farm Area –Visitor Center Interpretive Point- Wayside Exhibit	*	\$ 17,798.84	*	\$750
Historic Farm Area – Historic Farm Interpretive Point- Wayside Exhibit	*	\$ 17,798.84	*	\$500
Historic Farm Area- Historic Farm Trail- Wayside Self-Guided	*	\$3,512.93	*	\$600
Equestrian Center - Riding Ring Improvements	NA	NA	NA	NA
Equestrian Center – New Restroom	NA	NA	NA	NA
Historic Farm Area – Nature Play-Wayside Self-Guided	*	\$3,512.93	*	\$375
Cedar Lake – Nature Play- Wayside Exhibit	*	\$ 17,798.84	*	\$2500
Cedar Lake – Boardwalk Renovation- 3 Waysides Self-Guided	*	\$10,538.79	*	\$450

**Capital for interpretation identified in cost estimates for projects*

3.5 BUSINESS OPERATIONS

Park Plan

In reviewing the Carriage Hill Site Plan as proposed, the Business Operations Department developed a list of assets that would generate additional revenue. These assets include the Carriage Hill Riding Center, the renovation of Allen Barn and the Historic Farm Area.

Facilities

The Equestrian Riding Center is a public horseback riding facility located within Carriage Hill MetroPark. Approximately 20 horses are housed at the facility, which provides safe, affordable horseback riding programs designed to develop proper horsemanship skills for the beginner to intermediate rider. The facility contributes to the Five Rivers MetroParks organizational mission by providing “outdoor experiences that inspire a personal connection with nature” using horses as the vehicle. Current program offerings include:

- Guided horseback trail rides
- Summer youth camps
- Group riding lessons
- Hand-led pony rides for young children
- Volunteer program

Capital Improvement Plan

- Renovate the Visitor Center to provide a public space usable for meetings and special events.
- Renovate Allen Barn to provide a public space usable for meetings and special events.

Current Revenue Sources

The reservable shelters at Carriage Hill MetroPark averaged a fill rate of 48.7% during the weekend peak season from 2016 to 2018, a rate that ranks 1st among the 13 parks with reservable shelters.

Carriage Hill Equestrian Riding Center generates revenue from horse trail rides, pony rides, horse camps, and riding lessons. In 2017, total sales from programming totaled \$70,950 with a combined average of 89.25% fill rate for all our reservable programs.

Proposed Revenue Sources

The renovation of Allen Barn may potentially generate an estimated \$1,250 per weekend day booking, and \$500 per weekday booking based on the current market average of similar facilities in the Dayton Metro area.

Programming

At the time of developing the park master plan there was no proposed new programs for the Allen Barn, Joseph Arnold Homestead Area, and the Equestrian Riding Center. However, programming will be evaluated annually for possible new program options and changes.

Research shows that the horse industry has an economic impact of \$39 billion on the U.S. economy¹. The Equestrian Riding Center benefits youth, adults, and families who want to participate in equestrian activities but are unable to afford a horse of their own. The pricing structure and programs were bench-marked, and prices were increased for three of four programs beginning in 2013. The Equestrian Riding Center has a competitive advantage with teaching lessons and also a niche for continuing to offer trail rides, based on demand and proximity to other local competitors.

A “Strengths, Weaknesses, Opportunities and Threats” (SWOT) analysis was completed in 2013. Strengths included: equestrian trail access, brand recognition, and high demand for services. Weaknesses included: capacity issues, such as the number of staff, horses, stalls, pasture space, and trail loops.

Short and long-term goals are focused on increasing labor capacity and the number of horses in order to increase lesson revenue, which would occur in conjunction with the renovations of the outdoor riding arena. Reducing costs by contracting labor for teaching and purchasing annual hay instead of producing it in-house; and partnering or contracting with other entities to offer programs/events at the center.

The horses at the Equestrian Riding Center offer a unique opportunity to draw people to Carriage Hill MetroPark who love horses and may not want to hike, kayak or participate in other naturalist programming. Horses allow people to experience FRMP trail systems in a meaningful way and offer a deep connection or bond to another living thing that relies on its caregivers for its survival. Users of the Equestrian Riding Center will begin to understand the cultural relevance of horses, the important role horse pastures, hay fields and horse farms have in the local ecosystem and wildlife habitat that would otherwise be surrounded by development. Offering horse camps at Carriage Hill MetroPark allows FRMP to “broaden programs to appeal

¹ Deloitte. *American Horse Council Foundation – The Economic Impact of the Ohio Horse Industry*. 2005: 2.

to diverse users and offer opportunities for new and inclusive experiences that increase the value of FRMP to the community”², connect youth and their families to nature and active outdoor lifestyles³, and begin to create a culture of conservation in young people and adults.

Equestrian Riding Center Staffing

- Equestrian Riding Center Manager
- (1) Full-time Equestrian Technician
- (1) Part-time Equestrian Technician
- (4) Seasonal Equestrian Aides

3.6 PUBLIC SAFETY

Implementation of the Carriage Hill Master Plan will have some impact on the Ranger Division, but the impact will be minimal overall. Below are the considerations:

Current Patrol

- Patrol Area - Rangers are normally assigned a patrol area, or “beat.” The beats are North, South, East, and Central. Carriage Hill MetroPark is part of the North Beat, along with Taylorsville, and Englewood MetroParks.
- Patrol strategies - Typically, the ranger assigned to a patrol beat will patrol the parks in his or her assigned beat several times each day at various intervals, being careful not to have a predictable routine in their patrol times and methods. Rangers frequently make informal contact with park visitors and are encouraged to contact people who have reserved a shelter. Rangers look for anything suspicious and make contact with people who may be involved in criminal activity. The primary focus is preventing criminal activity, but rangers are encouraged to take enforcement action, including making physical arrests or issuing citations, when appropriate.
- Patrol time estimates - Rangers had previously estimated the amount of patrol time they spend actively patrolling in each of our parks during their 10-hour day while

² FRMP. *Comprehensive Master Plan*. 2017: 158.

³ FRMP. *2017-2018 Strategic Plan*.

assigned to that area, not counting any drive-times from park to park or other non-patrol time.

In a typical 10-hour work day, the estimated average time the ranger spends on active patrol in Carriage Hill is 110 minutes.

Anticipated Changes to Patrol

- Vehicular traffic and parking – Most patrol conducted by rangers is done by driving through the park areas in a marked cruiser. Given the minor changes proposed in the traffic pattern and parking areas for Carriage Hill, it is not anticipated that there will be any significant change to patrol strategies or patrol time.
- Impact of additional paved and hiking trails – While rangers do sometimes walk trails and use bikes to patrol the paved and hiking trails, the proposed changes for Carriage Hill MetroPark are minor and will not result in any significant change to patrol strategies or patrol time.
- Impact of changes to the structures/features – The proposed changes to some of the structures and features will not significantly impact ranger patrol at Carriage Hill MetroPark. Vacating Shull Road will result in less cut-through traffic and should reduce the number of speeding complaints and reduce the amount of speed enforcement time rangers spend there.
- Impact of additional activities/visitation – While it is expected that some increased usage of the park overall will occur due to the proposed improvements, this increased usage should not have a significant impact on the amount of patrol time rangers spend in the park. Whenever there is an increase in the number of people in a location, generally there will be the potential for increased criminal activity. In this case, it is likely there will be an additional occasional theft or vandalism, but not a significant increase in crime as a result of the proposed changes.

Impact/Cost to Public Safety

- Based on the changes and additions proposed in the Carriage Hill MetroPark Master Plan, an estimated additional 10 minutes of patrol time per ranger, per shift, will be needed after the improvements are completed. This is based on the assumption that the improvements and additional programming will increase the number of visitors and will require some additional ranger time to patrol it consistently throughout the day.

- An additional 10 minutes of patrol per shift x 3 shifts = 30 minutes of additional patrol per day x 365 days = 182 additional patrol hours per year.



3.7 PHILANTHROPY

The addition of new trails, equestrian features, amenities and renovated facilities proposed in the Carriage Hill MetroPark Master Plan provides excellent naming, sponsorship and tribute opportunities. Based on item descriptions and notes from the park master plan the following elements could generate alternative revenue:

- | | |
|------------------------------------|--------------------|
| • Hiking Trails | Sponsor or tribute |
| • Equestrian Trails | Sponsor or tribute |
| • Observation Platforms, Overlooks | Sponsor or naming |
| • Prairie Observation Tower | Sponsor or naming |
| • Cedar Lake Boardwalk | Sponsor or naming |
| • Play Areas | Sponsor or naming |
| • Trail Bridges | Naming |

- Riding Pavilion, Stables, Indoor Arenas, Farm Facilities Naming
- Shelters and Benches Naming or tribute

