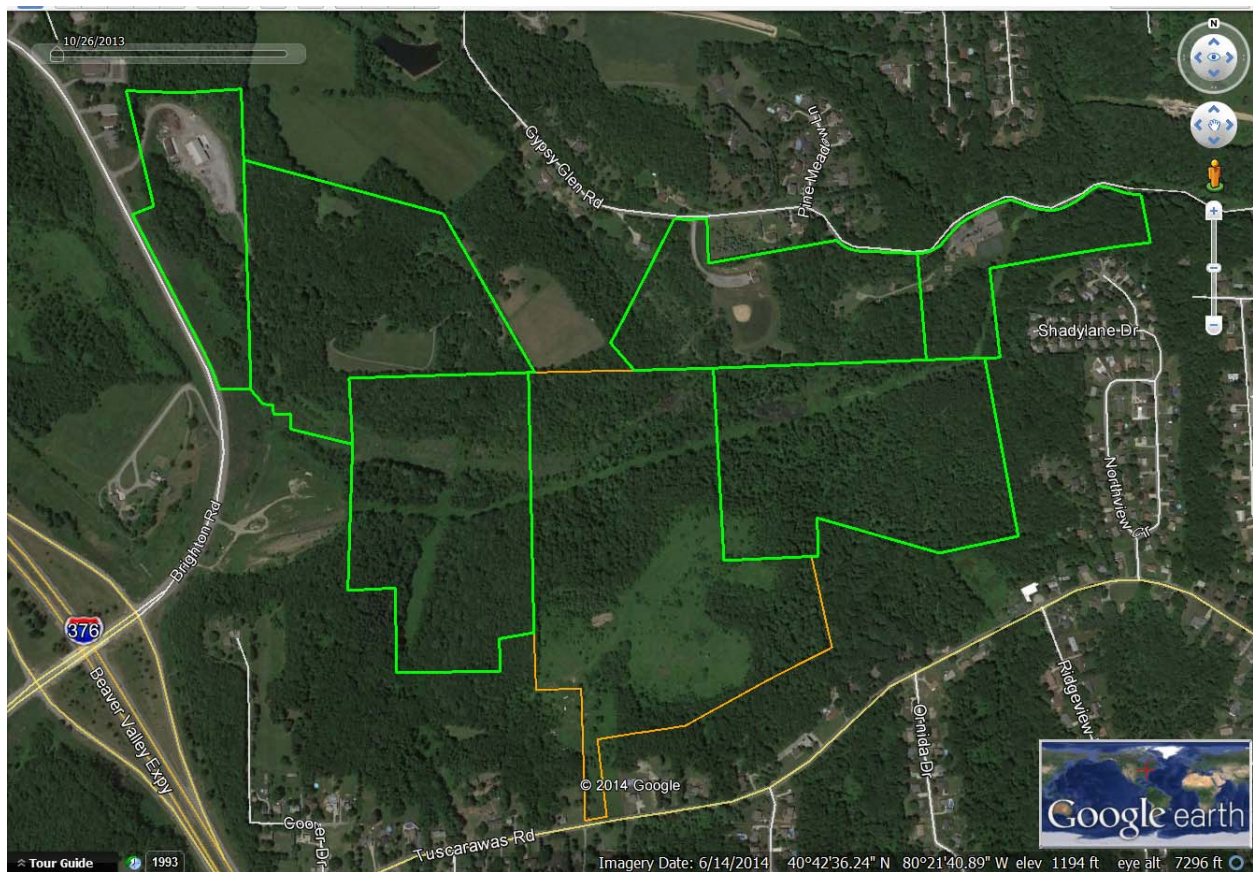


Two Mile Run Park Master Plan

December 2014



This picturesque park is centrally located within Brighton Township, Beaver County and is focused around the Two Mile Run stream valley. To assist in this endeavor Pashek Associates retained the expertise of Moshier Studio - Architects, to evaluate and make recommendations for the existing and proposed park structures.



The park currently consists of six parcels (green). The adjacent parcels to the east, and three adjacent parcels to the west, separated by one parcel in between (orange). The park properties are referred to as Two Mile Run Park Extension located to the west, an Two Mile Run Park located to the east. The Two Mile Run Park property is 82 acres in size while the Two Mile Run Park Extension property is 132.82 acres in size. Two Mile Run Park Extension also includes the Township Public Works facilities and storage areas. Combined, the total park acreage is currently 214.82 acres.

There are two entrances into the Two Mile Run Park property, both located along Gypsy Glen Road. One entrance is located at the lower portion of the park, providing access to the Lodge, picnic groves and playground. A second entrance is located further west on Gypsy Glen Road and provides access to a ball field and picnic grove. There is one entrance into the Two Mile Run Park Extension property from Brighton Road. This entrance also provides access to the Township's Public Works facility.

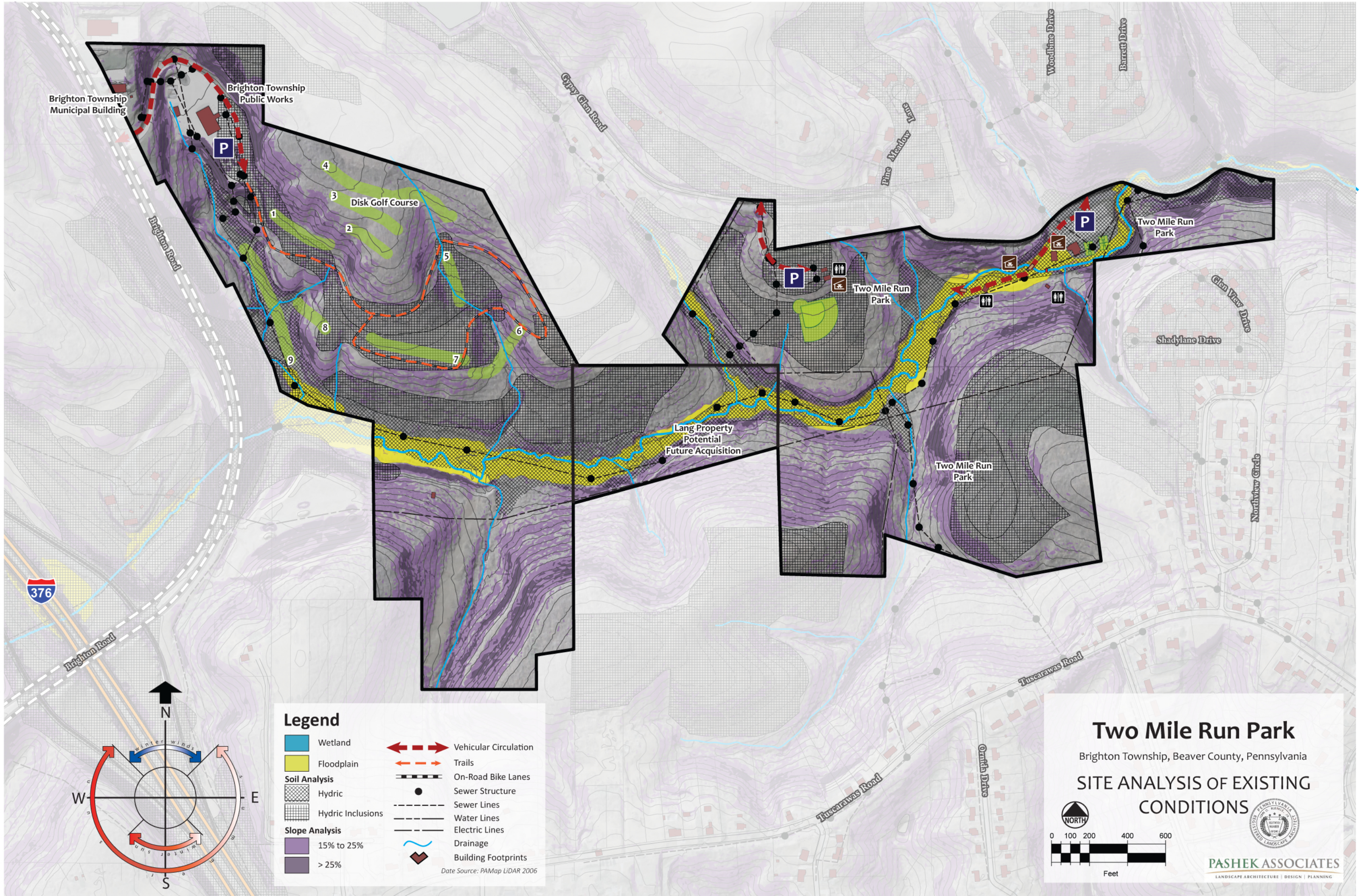
The Township's Official Map reserves the opportunity to purchase a portion of parcel no. 551520120000 (orange), the property located between Two Mile Park and Two Mile Run Park Extension, to connect the park properties to each other, should it become available.

Site Analysis

Before visiting the site, a desk-top analysis was conducted. This analysis identified the locations of the Two Mile Run stream, its floodplain, drainageways & tributaries to Two Mile Run, hydric soils, soils with hydric inclusions, steep slopes (15 to 25%), very steep slopes (>25%), access roads and vehicular circulation, existing trails, public sewer service, public water service, electric transmission lines, and existing facilities.

Two Mile Run's headwaters are located in the western portion of Brighton Township, west of Two Mile Run Park. The stream enters the property after it passes through a culvert beneath Brighton Road (PennDOT right-of-way). The stream enters the property at an approximate elevation of 998 feet above sea level. It flows approximately 1,200 feet through the Two Mile Run Extension property before exiting it. IT continues to flow approximately 1,275 feet through parcel no. 551520120000, then it enters the Two Mile Run Park property and flows approximately 1,380 feet to bridge no. 2, 410 feet to bridge no. 1, 150 feet to the pedestrian bridge crossing Two Mile Run, and then approximately 1,280 feet eastward where it leaves the park property at an elevation of approximately 944. The total distance of this section of Two Mile Run being approximately 5,695 feet (1.08 miles). PA Chapter 93 classifies Two Mile Run as a Warm Water Fishery, therefore, there are no special restrictions placed on the watershed.

As Two Mile Run enters the Two Mile Run Park Extension property the stream's bed and banks are in a natural state until it reaches the developed portion of the Two Mile Run Park property, in the vicinity of bridge 2. Its floodplain is typically 150 feet wide, 75 feet on either side of the stream as it flows through the valley, until it exits the property and flows beneath Gypsy Glen Road. At this point the floodplain is restricted by the topography. Typically, the topography rises steeply from the edge of the floodplain to the north and the south. In the center of the Two Mile Run Park Extension property there are unnamed tributaries flowing through valleys perpendicular to Two Mile Run, from both the north and the south. Further east a significant valley on the south carries an unnamed tributary north to Two Mile Run. Several smaller tributaries are located on the northern side of the stream.



Brighton Township
Municipal Building

Brighton Township
Public Works

P

4

3

Disk Golf Course

2

1

7

6

8

9

P

Two Mile Run
Park

P

Two Mile Run
Park

Shadylane Drive

Glen View Drive

Northview Circle

Two Mile Run
Park

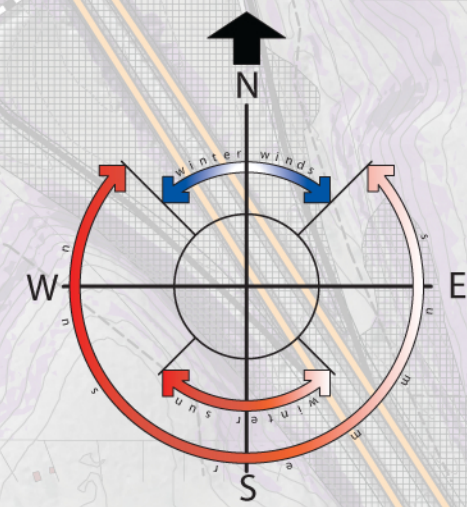
Lang Property
Potential
Future Acquisition

Tuscarawas Road

Omaha Drive

376

Brighton Road



Legend

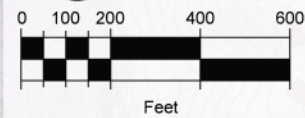
- Wetland
- Floodplain
- Soil Analysis
 - Hydic
 - Hydic Inclusions
- Slope Analysis
 - 15% to 25%
 - > 25%
- Vehicular Circulation
- Trails
- On-Road Bike Lanes
- Sewer Structure
- Sewer Lines
- Water Lines
- Electric Lines
- Drainage
- Building Footprints

Date Source: PAMap LiDAR 2006

Two Mile Run Park

Brighton Township, Beaver County, Pennsylvania

SITE ANALYSIS OF EXISTING CONDITIONS



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Utilities

The Brighton Township Sewage Authority operates and maintains a sanitary sewer main that parallels Two Mile Run through the valley within a 20 feet wide right-of-way.

Duquesne Light operates and maintains overhead electric lines within a 30 feet right-of-way which also extends through the Two Mile Run valley.

Two Mile Run Park Extension Vehicular Circulation

Access to the Two Mile Run Park Extension property is located on the east side of Brighton Road. The access road enters the property at an elevation of 1175 feet and descends into the property reaching an elevation of 1108 near the Public Works Building. A small sign near the Brighton Road intersection identifies the Township Public Works Facility and Two Mile Run Park Extension. The Public Works Office, Garage and Storage facilities are prominently located on this property. The Township should consider enhancing the arrival experience into the Park, and consider screening the public works facilities and activities from the view of those visiting the park.

Existing Facilities

Beginning on the western side of the park, on the Two Mile Run Park Extension property, one enters the park from Brighton Road. This access also provides access to the Township's Public Works Department which is also located on this property.

Public Works Facilities

An assessment of the Public Works Department Offices and Garage, 140 feet x 80 feet in size, was note required as part of the study. West of the office are bulk storage bins, 100 feet x 35 feet in size. An area immediately south of the garage is also used from time to time for the storage of bulk materials, 240 feet x 100 feet in size. Diesel and gasoline storage tanks are located east of the Public Works Garage, along the access road into the property. The Township may want to consider relocating the tanks to an area outside of the general public's vehicular circulation pattern.

Trailhead, Walking Trail and Disc Golf Course

The existing trailhead consists of several undefined parking spaces and a sign identifying the presence of the loop walking trail. The loop walking trail is approximately 4,300 feet in length, eight-tens of a mile. From the walking trail one can access a nine hole disc golf course. The terrain on the course is mostly hilly and located in a successional forest. The course totals approximately 4,000 feet, with two holes under 300 feet, two holes between 300 and 400 feet, and five holes over 400 feet in length. Targets are disc catcher disc golf course baskets.

The Professional Disc Golf Association (PDGA) states the course is 'A great skill-builder with elevated tees and greens and a variety of wooded and open shots. 850 rated red tees and 900 rated white tees with multiple pin placements. Two par 5 and four par 4 holes.'

Beyond the public works facilities there is a small trailhead parking area.

Two Mile Run Park Extension - Upper Two Mile Run Park Recommendations

Based on the input received during the planning process, our inventory and analysis of opportunities and constraints, we recommend the following improvements be considered for Upper Two Mile Run Park.

We recommend the Township erect a sign whose primary message is Two Mile Run Park. While access to the Public Works Garage can be acknowledged, we recommend it be done in a subtle way, as the focus should be on the park. The sign should be similar, in character, style and design, to the main park sign located in the lower park.

We recommend the park access road, through the public works site, be defined by separating it and providing planted screening between the access road and the Public Works office & garage building. This will require the diesel and gasoline tanks to be relocated to another area within the Public Works site. Further, we recommend the access road be lighted, from Brighton Road to the Trailhead access.

We recommend the trailhead parking area be formalized, with a defined paved parking lot accommodating approximately 17 spaces, with two spaces being accessible. As with the road, the trailhead parking lot should be lit for safety and security.

Further, we recommend a 20 feet x 35 feet shelter and a separate restroom building be constructed adjacent to the trailhead parking lot. These amenities will serve the needs of those walking the loop trail and visiting the disc golf course.

Upon acquisition of the northern portion of parcel 551520120000, we recommend:

1. The expansion of the disc golf course from 9 holes to 18 holes. While it meets the needs locally, expanding the disc golf course by adding 9 more holes, for a total of 18 holes would make the course more appealing to those playing the sport.
2. The existing access road be extended to proposed shelter no. 6 where it will terminate in a cul-de-sac with 10 to 12 'eyebrow' parking spaces, two being accessible. Adjacent to the parking area we propose shelter no. 6, 20 feet x 35 feet in size, and a corresponding restroom building.

We recommend the Township maintain a streamside buffer consisting of native vegetation along both sides of the stream. This buffer should be a minimum of 10 feet wide from top of bank, to 30 or 50 feet or more where possible. The wider the buffer, the better it protects the stream from the effects of stormwater runoff.

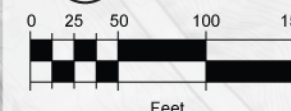
Last, we recommend a natural surfacing hiking trail loop around the upper portion of the park and connect to the center and lower park. The hiking trails should be sustainably designed and constructed, in accordance with PA DCNR's "Pennsylvania's Trail Design & Development Principles: Guidelines for Sustainable Non-Motorized Trails."

These recommendations as illustrated on the Two Mile Park – Upper Park Enlargement Master Plan.

Two Mile Run Park

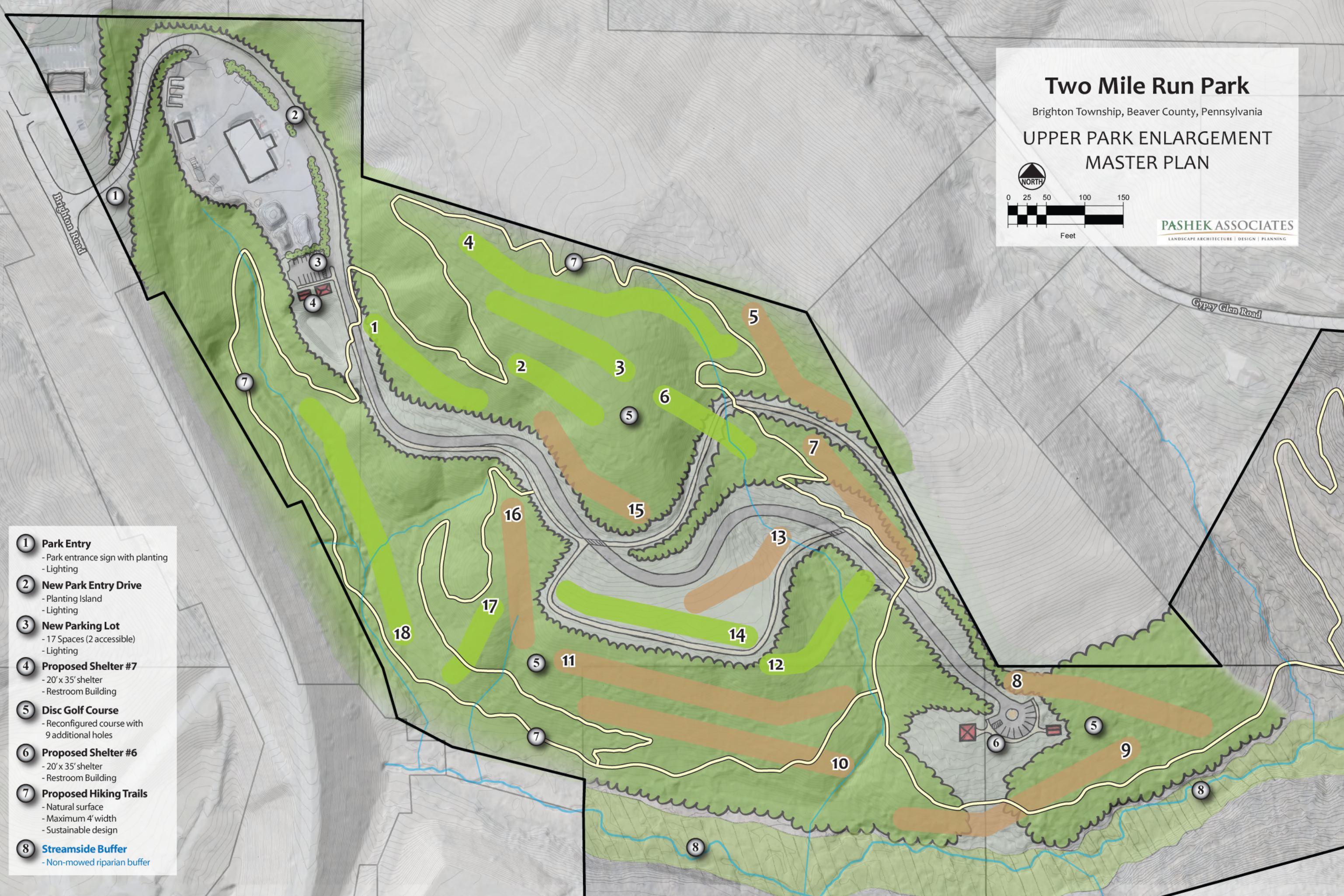
Brighton Township, Beaver County, Pennsylvania

UPPER PARK ENLARGEMENT MASTER PLAN



PASHEK ASSOCIATES
LANDSCAPE ARCHITECTURE | DESIGN | PLANNING

- 1 Park Entry**
 - Park entrance sign with planting
 - Lighting
- 2 New Park Entry Drive**
 - Planting Island
 - Lighting
- 3 New Parking Lot**
 - 17 Spaces (2 accessible)
 - Lighting
- 4 Proposed Shelter #7**
 - 20' x 35' shelter
 - Restroom Building
- 5 Disc Golf Course**
 - Reconfigured course with 9 additional holes
- 6 Proposed Shelter #6**
 - 20' x 35' shelter
 - Restroom Building
- 7 Proposed Hiking Trails**
 - Natural surface
 - Maximum 4' width
 - Sustainable design
- 8 Streamside Buffer**
 - Non-mowed riparian buffer



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Upper Park Master Plan Opinion of Probable Construction Costs

The opinion of probable construction costs projected here assumes improvements are constructed through a public bid process utilizing the Pennsylvania Department of Labor and Industry's prevailing wage rates. These projections are likely to give folks "sticker shock." That said, projects should not be put on hold, deferred, or not entertained as they seem too expensive to undertake. Rather Brighton Township and its partners need to "think outside the box" to determine how to construct and implement the recommendations of this plan, at the lowest possible cost while maintaining a high level of quality in the construction of that work.

Unit prices for construction were assigned based on the consultant's experience with construction costs in 2014. These costs are based upon publicly bid projects that pay prevailing wage rates.

The cost projections take into account the following:

- ✓ The condition of the property at the time of construction will be similar to its condition in 2014.
- ✓ Projects will be bid through a competitive bidding process utilizing state or federal prevailing wage rates.
- ✓ Opinions of probable construction costs should be confirmed / revised upon completion of preliminary design.
- ✓ To budget for inflation costs for improvements that will occur after 2014, we recommend a 4.5% annual increase for each year thereafter.
- ✓ In Pennsylvania all projects, valued at over \$25,000 and using public funds, are required to pay workers in accordance with the Commonwealth Department of Labor and Industry's Prevailing Wage Rates

It is important to note that costs are based on 2014 construction figures. Should projects be constructed in future years an additional 3% per year should be factored for inflation. Additional increases may be necessary to address the escalation of steel and fuel prices as their costs are escalating at unprecedented rates.

As noted, volunteer labor, in-kind services, and donated materials and services can reduce the overall project cost from costs projected here. Additionally, alternate sources of funding, including grant opportunities, may assist in offsetting construction costs.

The following table summarizes our opinions of probable construction costs for implementing the physical improvements described herein and shown on the upper park master plan.

Two Mile Run Park Master Plan - Upper Park Enlargement Opinion of Probable Construction Costs				
Item	Quantity	Unit	Unit Price	Extension
Site Preparation				
Grading for road ext, turn around, & parking	1700	CY	\$5	\$8,500
Subtotal Site Preparation Costs				\$8,500
Site Improvements				
Existing DPW Road Narrowing / Landscaping	1	LS	\$50,000	\$50,000
Park Road Extension	21545	SY	\$50	\$1,077,250
Paved walking trail addition	1000	SY	\$30	\$30,000
Standard-duty bituminous (parking stalls)	2395	SY	\$40	\$95,800
Line Striping	1	LS	\$1,500	\$500
Accessible Parking Sign	4	EA	\$250	\$1,000
Wheel Stop for Accessible Space	4	EA	\$250	\$1,000
Walkways - concrete	1925	SY	\$102	\$196,350
Shelter with Picnic Tables & Concrete Pad	1	LS	\$40,000	\$40,000
New Foot Bridge over Two Mile Run	1	LS	\$50,000	\$50,000
New Restroom to serve picnic shelter	1	LS	\$125,000	\$125,000
Site Lighting - Parking Lot, Road, and Shelter	15	EA	\$3,000	\$45,000
Misc items - Trash cans & Signage	1	LS	\$5,000	\$5,000
Seeding	1	LS	\$10,000	\$10,000
Disc Golf Course - addition of nine holes	1	LS	\$15,000	\$15,000
Subtotal Site Improvements Costs				\$1,741,900
Subtotal				\$1,750,400
Stormwater Management (10%)				\$175,040
Erosion and Sedimentation Control (1%)				\$17,504
Mobilization (3%)				\$52,512
Stake-out (3%)				\$52,512
Contingency (10%)				\$175,040
Subtotal				\$2,223,008
Design, Construction Document Preparation, Bidding and Construction Observation				\$333,451
Total Cost				\$2,556,459

Ballfield Area Recommendations

Heading east along Gypsy Glen Road from the Two Mile Run Park Extension property the first entrance provides access to upper Two Mile Run Park. The access road enters the property at an elevation of 1177 and descends down to an elevation of 1066 where the access road terminates at the parking lot. The parking lot can accommodate approximately 44 vehicles, with four the spaces being accessible. Immediately adjacent to the parking lot is shelter no. 3, 30 feet x 40 feet in size, and a restroom and storage building, 24 feet x 36 feet in size.

A ballfield, with 225 feet foul lines and center field, is located on a bench in the topography situated approximately 20 feet lower than the adjacent parking lot. A backstop and chain link fence in front of the players bench areas protect those near the field. No other fencing exists around the ballfield.

There is not an accessible route available to reach the ballfield from the parking lot. Therefore we recommend an accessible route be graded and constructed to connect the existing parking lot to the player and spectator areas of the ballfield.

Existing Shelter No. 3

Shelter No. 3 was constructed in 2008 and is therefore in acceptable condition. This shelter was power washed and sealed in 2014.



Date of Construction	2008	
Size	25' x 40' = 1000 sf	
Capacity	Seats 12 x 8 = 96 at picnic tables	
Roofing	Asphalt shingles over pine deck	
Roof structure	Glulam beams	
Roof drainage	Aluminum gutters and downspouts	
Walls/ structure	6"x 8" steel tube columns	
Floors	Concrete slab	
Fixtures		

Electrical Service	100A panelboard served underground from the lodge. Receptacles on columns and exterior wall pack lighting on beams.	
Mechanical Service	none	
Strengths	New construction, located well above the flood plain.	
Deficiencies		

Should an additional shelter be constructed in the lower portion of the park at the end of the existing access road adjacent to the proposed cul-de-sac, we recommend this shelter be re-numbered to shelter no. 4 to maintain the numerical sequencing of shelters within the park.

Shelter No. 3 Restrooms and Storage Building



Date of Construction	2010	
Size	20' x 32' = 640 sf	
Capacity	Women: 2 WC = 80 occupants Men: 1 WC + 1 urinal = 150 occupants	Based on A-5 occupancy
Roofing	Asphalt shingles over plywood deck, ventilated aluminum soffit	
Roof structure	Plate-connected wood trusses	
Roof drainage	Aluminum gutters and downspouts	
Walls/ structure	Split-face concrete masonry units, wood-framed gable ends with vinyl siding	
Floors	Concrete slab, painted	
Windows and doors	Glass block windows, steel doors and steel frames, overhead sectional garage door	
Fixtures	Tank toilets, wall-hung lavatories, concrete masonry toilet partitions with steel doors	
Electrical Service	225A panelboard. Interior 4' fluorescent fixtures with wraparound diffusers, exterior wall packs.	
Mechanical Service	15 gallon water heater, exterior drinking fountain and hose bibb, exhaust fans, heaters	Drinking fountain concrete has been broken
Strengths	ADA compliant, new construction. Located well above flood plain.	
Deficiencies	Drinking fountains on an accessible route need to be cane-detectable.	

Shelter No. 3 Restrooms and Storage Building Recommendations

Replace drinking fountain.	\$2,500
Install railing barrier at drinking fountains	\$300

Two Mile Run Valley Recommendations

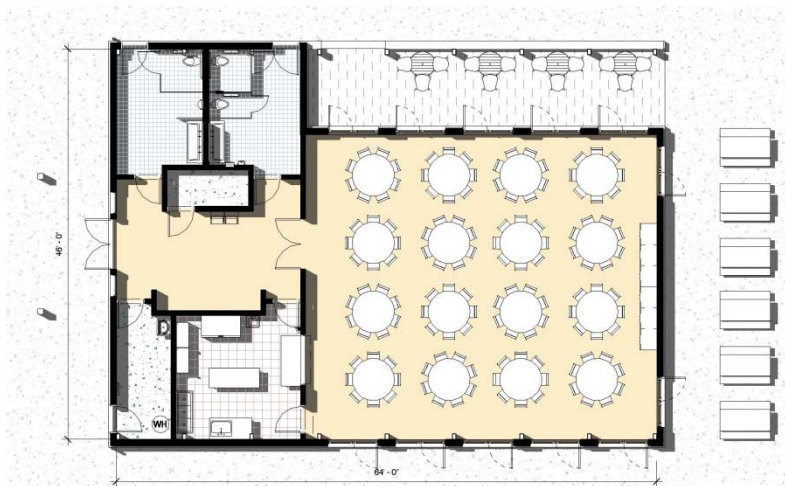
The floodplain of the Two Mile Run valley in this portion of the property has been dammed by a population of Beavers. The ponding of water behind the dam is encroaching upon the Brighton Township Sewage Authority's sanitary sewer main than extends through the valley. During the field view of the property water was within 12 to 18 inches of the top of the manholes. Although we presume the manholes have been designed and constructed to be watertight, there is the potential water is infiltrating into the sanitary sewer, thus increasing the amount of effluent required to be treated downstream. Therefore, we recommend the Township contact the PA Game Commission to determine if it would be appropriate to trap and relocate the beavers away from this site. To initiate this discussion contact PA Game Commission Southwest Regional Office.

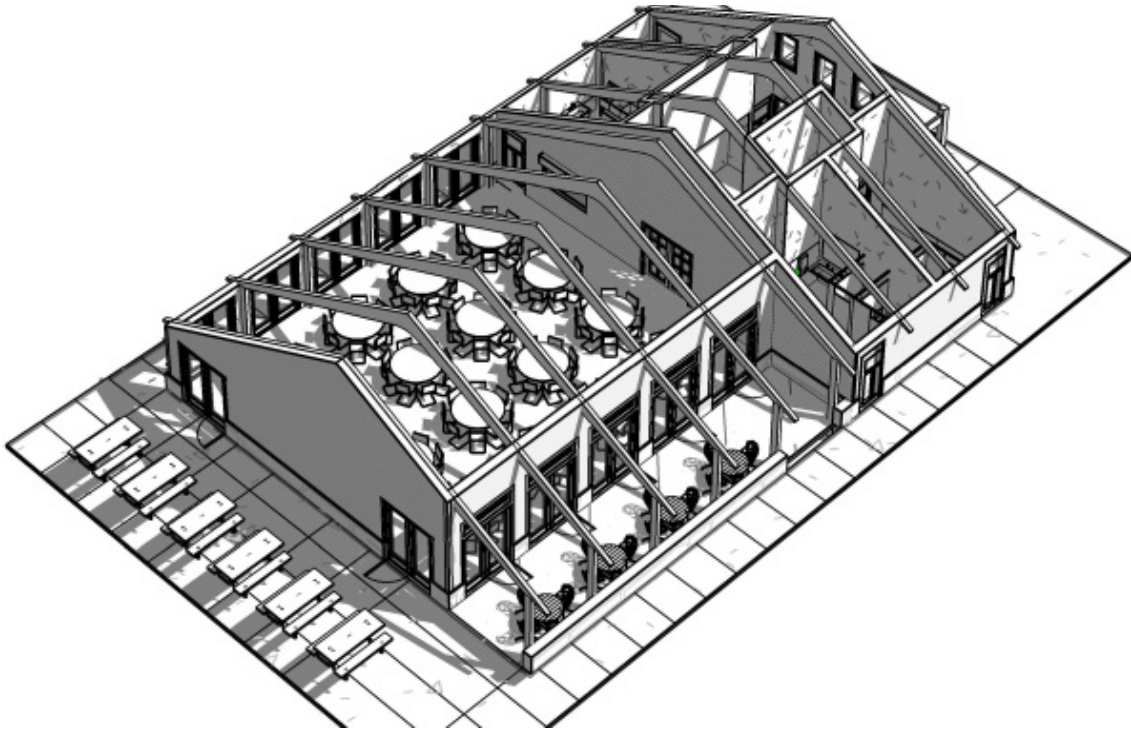
Proposed Lodge – Nature Center

As discussed later, with the Lower Park Master Plan Recommendations, there is a demand for additional multipurpose rental space within the Township. Given the topography of the central portion of the park, accommodating a proposed facility will require grading in a new access road to access a bench in the landscape that can accommodate such a structure. Therefore, an access road, approximately 560 feet in length is proposed. The road should terminate at a parking lot designed to accommodate the parking demands of those visiting the building.

Given the proposed location, we recommend this lodge be referred to as a nature center. The building should be sited to take advantage of the views into the Two Mile Run valley. Further, hiking trails should connect the building with the lower portions of the valley which can be used for environmental studies and education opportunities.

The proposed lodge – nature center is 2733 square feet. It contains a multipurpose room seating for 128 at tables, a lobby, catering kitchen, toilet rooms, storage and mechanical. The toilet rooms have extra door to the outside so they can be open when the building is not in use. The building features an exposed glulam wood frame, a side porch and rear patio, and large doors allowing the multipurpose room to be opened in good weather.





Budget: \$600,000 to \$700,000.

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Gypsy Glen Road

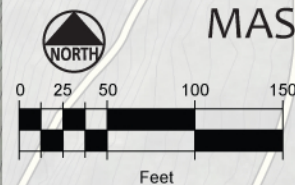
LOWER PARK ENLARGEMENT MASTER PLAN

- 1 Existing Baseball Field**
 - Park entrance sign with planting
 - Lighting
- 2 Existing Baseball Field**
 - Improvements to field and turf
- 3 New Accessible Walkway**
 - Improvements to field and turf
- 4 Existing Parking Lot**
 - 38 spaces (2 accessible)
 - Lighting
- 5 Existing Shelter #4**
 - 25' x 40' shelter
 - 12 picnic tables
- 6 Existing Restrooms**
 - 20' x 32' building
 - Sports storage
- 7 Proposed Lodge #2**
 - 50' x 70' indoor rental facility
 - 20' x 50' sheltered outdoor seating
 - Drinking fountain on building
 - Restrooms
 - Full Kitchen
- 8 New Lodge Parking Lot**
 - 40 spaces (2 accessible)
 - Lighting
 - Lodge drop-off
 - Trash Removal Area
- 9 Proposed Shelter #5**
 - 20' x 35' shelter
 - Restroom building
- 10 Proposed Hiking Trails**
 - Natural surface
 - Maximum 4' width
 - Sustainable design

Two Mile Run Park

Brighton Township, Beaver County, Pennsylvania

BALLFIELD ENLARGEMENT MASTER PLAN



PASHEK ASSOCIATES
LANDSCAPE ARCHITECTURE | DESIGN | PLANNING

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Ballfield Enlargement Master Plan Opinion of Probable Construction Costs

The opinion of probable construction costs projected here assumes improvements are constructed through a public bid process utilizing the Pennsylvania Department of Labor and Industry's prevailing wage rates. These projections are likely to give folks "sticker shock." That said, projects should not be put on hold, deferred, or not entertained as they seem too expensive to undertake. Rather Brighton Township and its partners need to "think outside the box" to determine how to construct and implement the recommendations of this plan, at the lowest possible cost while maintaining a high level of quality in the construction of that work.

It is important to note that costs are based on 2014 construction figures. Should projects be constructed in future years an additional 3% per year should be factored for inflation. Additional increases may be necessary to address the escalation of steel and fuel prices as their costs are escalating at unprecedented rates.

As noted, volunteer labor, in-kind services, and donated materials and services can reduce the overall project cost from costs projected here. Additionally, alternate sources of funding, including grant opportunities, may assist in offsetting construction costs.

Two Mile Run Park Master Plan - Central Park Enlargement
Opinion of Probable Construction Costs

Item	Quantity	Unit	Unit Price	Extension
Site Preparation				
Grading for road extension, building pad, turn around, & parking	15000	CY	\$5	\$75,000
Subtotal Site Preparation Costs				\$75,000
Site Improvements				
Lodge, 50' x 70'	1	LS	\$700,000	\$700,000
Dumpster Pad and Enclosure	1	LA	\$10,000	\$10,000
Standard-duty bituminous, road and parking	6835	SY	\$40	\$273,400
Line Striping	1	LS	\$1,500	\$1,500
Accessible Parking Sign	6	EA	\$250	\$1,500
Wheel Stop for Accessible Space	6	EA	\$250	\$1,500
Lower Area Walkways - concrete	770	SY	\$102	\$78,540
Shelter with Picnic Tables & Concrete Pad, 20' x 35'	1	LS	\$40,000	\$40,000
Restroom	1	LS	\$150,000	\$150,000
Site Lighting - Parking Lot, Road, and Shelter	11	EA	\$4,000	\$44,000
Misc items - Trash Receptacles & Signage	1	LS	\$5,000	\$5,000
Seeding/Native Woodland Restoration	1	LS	\$15,000	\$15,000
Ballfield Accessible Route - Concrete Walk	285	SY	\$102	\$29,070
Ballfield Accessible Route Grading	1500	CY	\$5	\$7,500
Hiking Trails - Natural Surface Trail	3140	LF	\$10	\$31,400
Trail Information Kiosk	1	EA	\$7,500	\$7,500
Trail Markers	6	EA	\$50	\$300
Subtotal Site Improvements Costs				\$1,396,210
Subtotal				\$1,471,210
Stormwater Management (10%)				\$147,121
Erosion and Sedimentation Control (1%)				\$14,712
Mobilization (3%)				\$44,136
Stake-out (3%)				\$44,136
Contingency (10%)				\$147,121
Subtotal				\$1,868,437
Design, Construction Document Preparation, Bidding and Construction Observation				\$280,266
Total Cost				\$2,148,702

Lower Park Master Plan Recommendations

Lower Park Access

Further east along Gypsy Glenn Road is the lower park access. A short driveway extends into the park providing access to a parking lot containing approximately 90 spaces. Along the southern edge of the parking lot is Shultz Lodge. The existing parking area sits higher than the lodge and slopes towards the lodge, thus creating drainage issues at the lodge.

From the western side of the parking area an access road provides access to the picnic groves located to the west. Upon traveling approximately 200 feet along the access road one reaches a bridge no 1, approximately 38 feet in length, spanning Two Mile Run. Traveling another 360 feet along the access road one reaches bridge no. 2 which also spans Two Mile Run. Bridge no. 2 is approximately 35 feet in length. Two Mile Run is undercutting the eastern bridge abutment. Traveling another 80 feet west of bridge no. 2 one reaches a gravel lot which functions as an unimproved cul-de-sac.



Lower Park Facilities

The lower portion of Two Mile Run Park has received the most improvement, with a number of facilities being located within it. They include:

1. Park Entrance
2. Shultz Lodge
3. Playground Adjacent to Shelter No. 1
4. Main Parking Lot
5. Existing Shelter No. 1 and Associated Restrooms
6. Basketball Court/Dek Hockey
7. Proposed Relocated Restrooms
8. Two Mile Run Streamside Buffers
9. New Footbridges over Two Mile Run
10. Open Field
11. Existing Shelter No. 2
12. Existing Restroom
13. Proposed Shelter No. 3
14. Proposed Hiking Trails

Park Entrance

There are two entrances into the main parking lot from Gypsy Glenn Road. To better organize traffic flow we recommend the westerly entrance be closed. This will also resolve grade and site distance concerns that are associated with this entrance.

We recommend that uplights be added to light the park entrance sign to increase its visibility after dusk. Further, we recommend the area between Gypsy Glenn Road and the main parking lot be regraded to accommodate rain gardens to capture and manage stormwater from Gypsy Glenn Road before it reaches the parking lot.

Shultz Lodge

Shultz Lodge is a heated and air conditioned facility, providing residents with opportunities to rent it through all seasons. It can seat 90 visitors around 12 tables. The lodge has a full service kitchen. In warmer months covered outdoor seating is available. There is parking in the lot in front of the lodge for approximately 100 vehicles. Adjacent to the lodge are two basketball courts and a playground. There are three picnic shelters located throughout the park that are available to rent throughout the months of May through September. Each shelter contains 12 picnic tables and restroom buildings are located near each. Shelters 1 and 2 are located near the lodge, while shelter 3 is located near the ball field.

Shultz Lodge is available for Township residents to rent. It is a popular venue for social gatherings and receptions. A review of rental records for the past two years indicates the lodge is occupied over ninety percent of its available days during the months of May, June, July, August and September. At the low point, during the dead of winter - January, the Lodge is rented at least forty percent of the time. Further, a review of the revenue and expenses associated with the lodge indicate the Township typically breaks even and covers the cost to operate and maintain the lodge with the revenue generated from rental revenues.

Not only does this indicate a need to maintain and improve upon the current offering, it also indicates there may be sufficient demand for the Township to explore opportunities of providing another similar venue in the Township. Input received during meetings held during the planning process suggested residents are interested in updating the lodge to make it more aesthetically appealing. Further, it was suggested the entrance into the lodge be changed so the building is accessed from the east, to eliminate walking in on the center of the main gathering space, as occurs today.

The following evaluation and subsequent recommendations for all building improvements were prepared by Cherie Moshier, Registered Architect, Moshier Studio.



Shultz Lodge Observations

<i>Date of Construction</i>	1971, addition in 2002	
<i>Size</i>	32' x 48'-5" = 1549 sf enclosed 30' x 24' = 720 sf sheltered	
<i>Capacity</i>	Tables and chairs for 61 for interior. Six tables for 8 = 48 for exterior. Toilet rooms can support an occupant count of about 150.	Based on A-2 or A-3 occupancy.
<i>Roofing</i>	Asphalt shingles over plywood deck	
<i>Roof structure</i>	Light wood rafters and ceiling joists	
<i>Roof drainage</i>	Hanging ogee gutters to downspouts	
<i>Walls/ structure</i>	Wood framed walls with vertical wood siding, wood posts in shelter area. Interior wood framed partitions with drywall and wood wainscot finish.	
<i>Floors</i>	Concrete slab with vinyl composition tile interior, concrete slab exterior.	
<i>Fixtures</i>	Brick fireplace, small stage area, kitchen with double-bowl sink, microwave, range, refrigeration.	Stage risers are too tall
<i>Windows and doors</i>	Wood double-hung windows with exterior plywood wood security covers. Exterior steel doors and frames, interior steel and flush wood doors.	
<i>Electrical Service</i>	250 A panelboard installed in 2010, pendant A-lamp lighting in multipurpose room, 4' fluorescent fixtures with wraparound diffusers elsewhere, emergency lighting, old fire alarm system, exterior lighting	
<i>Mechanical Service</i>	Water heater, furnace, air conditioning, kitchen and toilet room exhaust. Existing toilet rooms each with 1 WC and 1 lav, plus urinal in men's room.	Problem with uninsulated water supply lines to toilet rooms.
<i>Strengths</i>	Location convenient to park entrance and parking. Toilet rooms met ADA when installed and need only minor items for current compliance. Current occupancy certificate.	
<i>Deficiencies</i>	Located in a flood plain. Entrance on side of multi-purpose space results in awkward traffic flow.	

Shultz Lodge Recommendations

1. Remove stage area in main room and construct a new entry vestibule.	\$35,000
2. Remove existing entrance door and infill wall.	\$1,500
3. Replace windows.	\$3,000
4. Replace ceiling and lighting fixtures	\$10,000
5. Replace floor finish with luxury vinyl 'wood' flooring	\$10,000
6. Add vertical grab bars to existing toilet rooms, for ADA	\$300
7. Repaint building exterior	\$5,000
Construction budget:	\$64,800



In addition to the building recommendations, we recommend the existing trash enclosure and propane tank, located immediately west of the building be relocated to a less prominent location within the parking lot.



Playground Adjacent to Shelter No. 1 & Shultz Lodge

The existing playground adjacent to shelter 1 is dated and will need to be replaced at a point in the future. We recommend the Township consider developing a natural play space in this area.



Natural play areas rely on natural features serving as the play features. These may include boulders for climbing, natural mounds, ‘outdoor rooms’ created by planting trees and shrubs, etc. More information on Nature Play can be found here: www.natureplayandlearning.org.

Main Parking Lot

As noted above a short driveway extends into the park providing access to a parking lot containing approximately 90 spaces. Along the southern edge of the parking lot is Shultz Lodge. The existing parking area sits higher than the lodge and slopes towards the lodge, thus creating drainage issues at the lodge. We recommend the parking lot be re-graded by lowering it, allowing water to flow away from the lodge and by providing infiltration swales between the parking bays to reduce the amount of surface stormwater runoff.

The parking lot is separated from the adjacent basketball courts by wooden bollards along the edge of the parking lot and a strip of mowed lawn. The bollards are decaying, therefore, we recommend the Township consider replacing them with another suitable barrier.



Given the rustic nature of the park, we recommend a wooden guiderail be installed.



Existing Shelter No. 1



Date of Construction	1964	
Size	27'-6" x 47'-6" = 1306 sf	
Capacity	Seats 12 x 8 = 96 at picnic tables	
Roofing	Asphalt shingles	
Roof structure	Light wood trusses	
Roof drainage	Hanging ogee gutters to downspouts	Downspouts are crushed.
Walls/ structure	Steel pipe columns	
Floors	Concrete slab	
Fixtures	Brick fire pit in center	
Electrical Service	100A panelboard served underground from the lodge. Receptacles on columns and newer "jelly jar" lighting fixtures.	
Mechanical Service	none	
Strengths	Location convenient to park entrance and parking.	
Deficiencies	Located in a flood plain.	

Shelter No. 1 Recommendations

Replace downspouts	\$250
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Shelter No. 1 Restrooms



Date of Construction	1987	
Size	16' x 21'-5" = 343 sf	
Capacity	Women: 2 WC = 80 occupants Men: 1 WC + 1 urinal = 150 occupants	Based on A-5 occupancy
Roofing	Asphalt shingles over plywood deck	
Roof structure	Plate-connected wood trusses	
Roof drainage	No gutters or downspouts	
Walls/ structure	Concrete masonry unit walls with wood framed walls above.	
Floors	Concrete slab, painted	
Windows and doors	Glass block windows with operable vents, newer steel doors and steel frames.	
Fixtures	Tank toilets, wall-hung lavatories, plywood toilet partitions without doors	
Electrical Service	100A panelboard served underground from the lodge. Interior 4' fluorescent fixtures with wraparound diffusers, exterior lighting fixtures	
Mechanical Service	15 gallon water heater, exterior hose bibbs, no exhaust fans	
Strengths	Low maintenance materials. Provides adequate capacity for adjacent pavilion.	
Deficiencies	Does not comply with ADA: entrance,	

	turning radius, accessible stall size. Needs gutters or perimeter splash band. Located in a flood plain.	
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Shelter No. 1 Restrooms Recommendations

Demolish building, replace capacity with new building shared with Shelter 2	
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Basketball Courts

Two existing basketball courts, each 50 feet x 80 feet in size, are located immediately south of the parking lot, and immediately east of Shultz Lodge. The courts are asphalt and they are in fair condition. The asphalt courts have experienced shrinkage cracks which have been repaired. We recommend the Township consider removing the existing courts and re-paving them when other paving work is performed in the park. Further, to increase the aesthetic appeal of the courts we recommend replacing the posts and backboards and color coating the surface of the courts.

Given the rising popularity of hockey, the Township should consider converting one court into a dek hockey court.



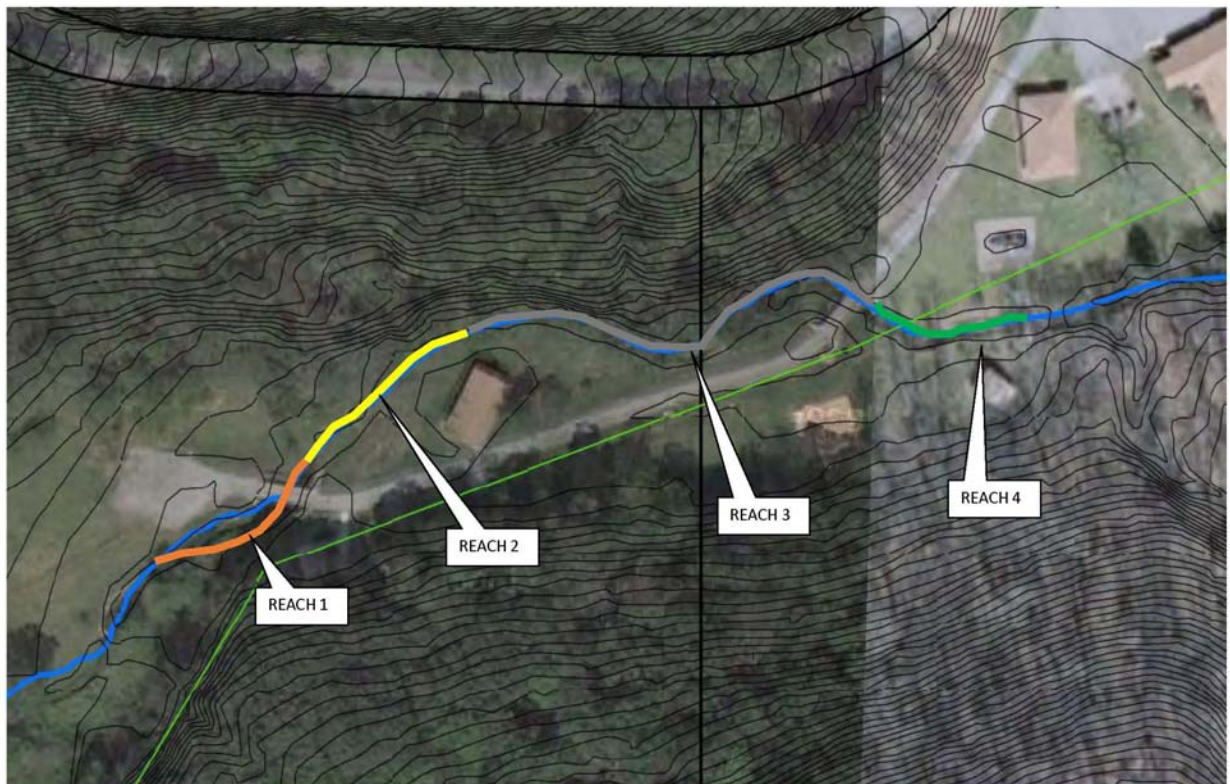
Two Mile Run Stream

The defining element of the park is Two Mile Run which bisects the property. The natural character and beauty of the stream set the tone for the park. While the stream and its bed and banks are in tact upstream, through the lower portion of the park the stream has deteriorated over time due to erosion and removal of the streamside's natural vegetation. During the planning process we asked Patrick Gavaghan, Ecotune Environmental, to review the stream and provide recommendations for its future.

First and foremost, we recommend the existing streamside buffers of native vegetation be protected from mowing and development. Further, we recommend that streamside buffers be re-established in the lower portion of the park, where they once existed but now are being mowed. We recommend a buffer of between 10 feet and 30 feet from the top of bank to any development or mowed lawn areas. These buffers will slow down and filter stormwater runoff, thereby reducing streambank erosion caused by the stormwater runoff.

Second, we recommend that the Township undertake streambank stabilization efforts along the lower segments of Two Mile Run as it passes through the park. The focus area for streambank stabilization should be from the northern side of bridge no. 2 to the eastern side of the pedestrian bridge crossing over Two Mile Run.

For purposes of making recommendations and estimating costs associated with the proposed improvements, this area has been further divided into four reaches.



Reach 1 - Station 0+00 to 1+10 (orange)

110 lineal feet in length. Within Reach 1 the stream will be aligned to improve the geometry of the stream's flow under the existing vehicular bridge – Bridge No. 2. Once re-aligned, the stream bed will be stabilized, the banks will be laid back and planted (zone 1) and the riparian zone (zone 2) will be planted.

Reach 2 - Station 1+10 to 2+40 (yellow)

130 lineal feet in length. Within Reach 2, the banks will be laid back and planted (zone 1) and the riparian zone (zone 2) will be planted.

Reach 3 - Station 2+40 to 5+10 (gray)

270 lineal feet in length. Within Reach 3, in-stream structures will be installed to improve bed stability, the right downstream bank will be laid back and planted (zone 1) and the right downstream bank riparian zone will be planted.

Reach 4 - Station 5+10 to 6+50 (green)

140 lineal feet in length. Within Reach 4, the banks will be laid back and planted (zone 1) and the riparian zone (zone 2) will be planted. Consideration should be given to increasing the span length of the pedestrian bridge.

To design, permit and implement these recommendations for stream improvements we recommend a budget of \$250,000, in 2014 dollars.

Open Field

A mowed lawn area should be retained adjacent to Shultz Lodge. This open space is required to meet the needs of those who rent the lodge, and to serve as an area for spontaneous recreation activities. The open lawn area should be planned in conjunction with the streamside buffers proposed along Two Mile Run so that a buffer is retained along the stream and the lawn does not extend to the top of bank.

Proposed Footbridges over Two Mile Run

The existing footbridge over Two Mile Run is not ADA compliant due to the arched span. Therefore we recommend it be removed and replaced. We recommend two new footbridges over Two Mile Run which will allow visitors to access the proposed hiking trails on the south side of Two Mile Run. We recommend the Township consider purchasing and installing reinforced fiberglass pedestrian bridges, such as the ones being manufactured by E.T. Technics in eastern Pennsylvania. For more information visit: www.ettechtonics.com.

Existing Shelter No. 2



Date of Construction	1974	
Size	23'-2" x 39'-6" = 915 sf	
Capacity	Seats 12 x 8 = 96 at picnic tables	
Roofing	Asphalt shingles over plywood deck	Deck sections are delaminating
Roof structure	Plate-connected wood trusses at columns, 2x4 purlins	
Roof drainage	No gutters or downspouts, perimeter splash band	
Walls/ structure	6" wood posts, braced	
Floors	Concrete slab	
Fixtures	Brick fire place and chimney	Brick needs to be repointed.
Electrical Service	100A panel board served underground from the lodge. Receptacles on columns and newer "jelly jar" lighting fixtures.	
Mechanical Service	none	
Strengths		
Deficiencies	Portions of the roof deck need to be replaced. Located in a flood plain.	

Shelter No. 2 Recommendations

Replace deteriorated deck area, ice & water shield, and asphalt shingles	\$700
Repoint brick	\$1,000
Rake and restore perimeter splash band	\$1,000
Construction budget:	\$2,700

In addition to these structure improvements, we recommend parallel parking spaces be developed along the access road to meet the parking demands of the shelter.

Shelter No. 2 Restrooms



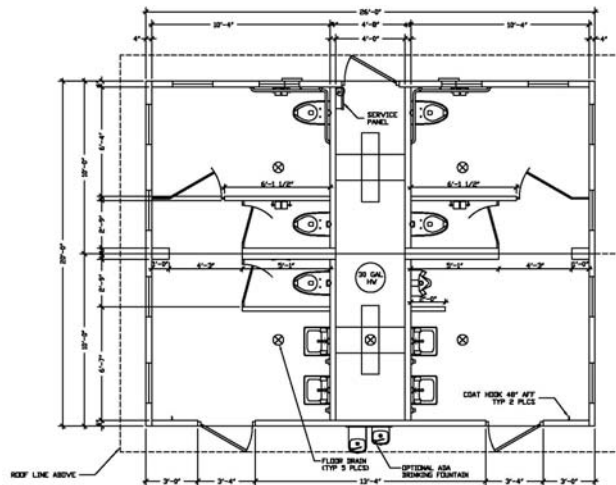
Date of Construction	1972	
Size	16' x 21'-5" = 343 sf	
Capacity	Women: 2 WC = 80 occupants Men: 1 WC + 2 urinal = 225 occupants	Based on A-5 occupancy
Roofing	Asphalt shingles over plywood deck	
Roof structure	Plate-connected wood trusses	
Roof drainage	Gutters and downspouts.	
Walls/ structure	Wood framed walls with wood siding. Lower half of siding recently replaced.	
Floors	Concrete slab, painted	
Windows and doors	Skylights with security mesh, older steel doors and steel frames.	
Fixtures	Tank toilets, wall-hung lavatories, steel toilet partitions without doors	
Electrical Service	100A panelboard served underground from the lodge. Interior 4' fluorescent fixtures with wraparound diffusers, exterior lighting	
Mechanical Service	15 gallon water heater, exterior hose bibb, exhaust fans, heaters	
Strengths	Provides adequate capacity for adjacent pavilion.	
Deficiencies	Does not comply with ADA: entrance, turning radius, accessible stall size. Located at toe of a slope and a permanent damp condition has created moisture damage to the siding. Located in a flood plain.	

Shelter No. 2 Restrooms Recommendations

Demolish building, replace capacity with new building shared with Shelter 1	
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New Restroom Buildings to serve Shelters No. 1, 2 & 3

One restroom to replace the existing shelter no. 1 restroom, and a second to replace the shelter no. 2 restroom and serve as a shared restroom to serve existing shelter no. 2 and proposed shelter no. 3.



Precast concrete flush restroom building available from several manufacturers. Installed on site on the same side of the stream as Shelter #1. See site plan.

Budget cost: \$125,000 each.

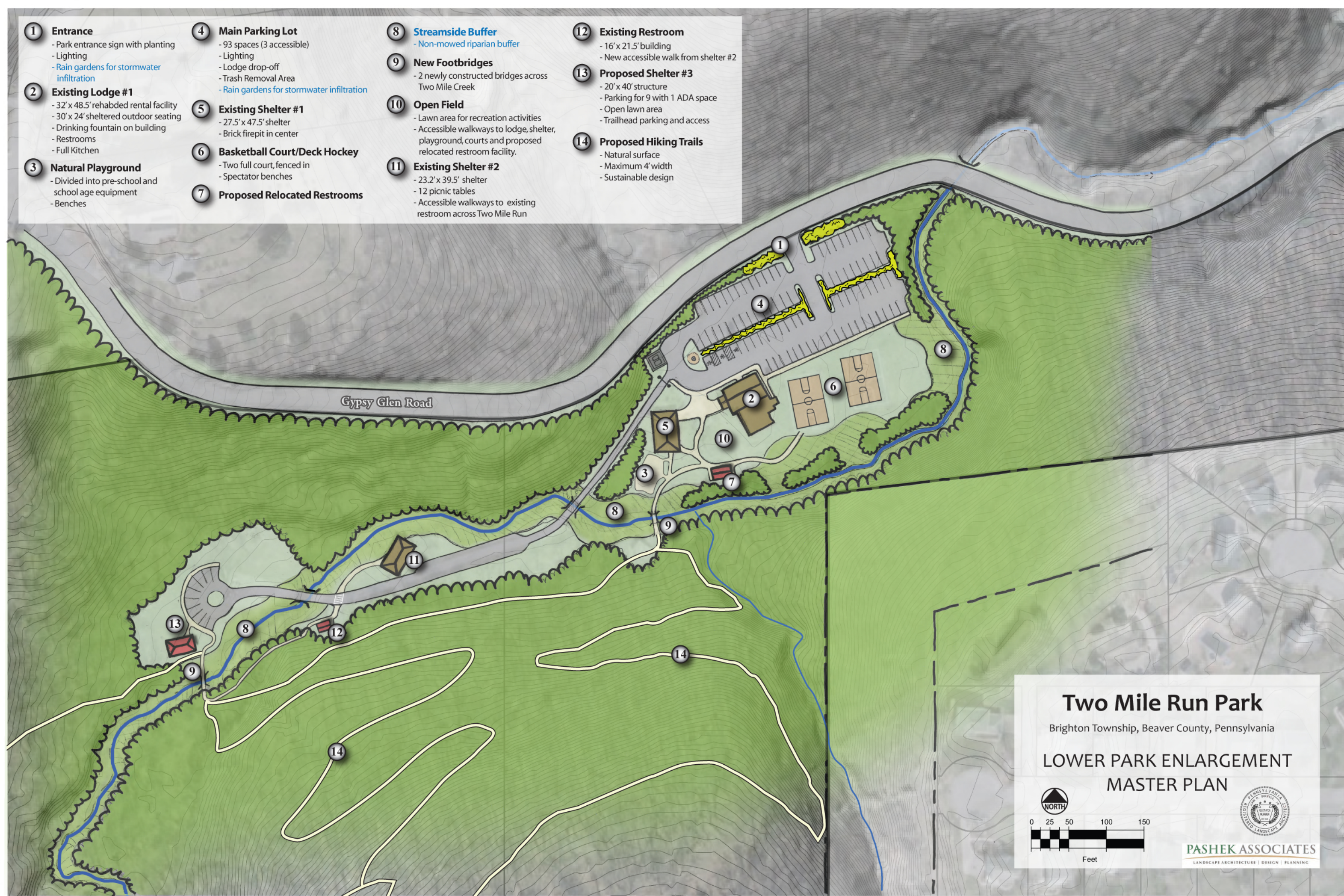
Proposed Shelter No. 3 Recommendations

At the end of the access road the slope is graded and cleared to accommodate sled riding. We recommend a cul-de-sac be developed, with ‘eye-brow’ parking along the eastern edge, and that a picnic shelter with fireplace be constructed to accommodate winter activities in this area of the park.

Proposed Hiking Trails

We recommend the Township establish an overall network of hiking trails throughout Two Mile Run Park. The hiking trails should be sustainably designed and constructed, in accordance with PA DCNR’s “Pennsylvania’s Trail Design & Development Principles: Guidelines for Sustainable Non-Motorized Trails.” These trails should not only extend up the valley and connect to the upper park, but also cross over to the south side of Two Mile Run. Currently the south side of Two Mile Run is not accessible, therefore, the trails will open access to this portion of the park.

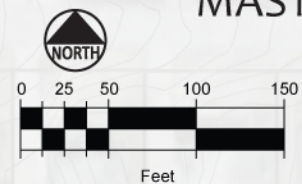
- 1 Entrance**
 - Park entrance sign with planting
 - Lighting
 - Rain gardens for stormwater infiltration
- 2 Existing Lodge #1**
 - 32' x 48.5' rehabbed rental facility
 - 30' x 24' sheltered outdoor seating
 - Drinking fountain on building
 - Restrooms
 - Full Kitchen
- 3 Natural Playground**
 - Divided into pre-school and school age equipment
 - Benches
- 4 Main Parking Lot**
 - 93 spaces (3 accessible)
 - Lighting
 - Lodge drop-off
 - Trash Removal Area
 - Rain gardens for stormwater infiltration
- 5 Existing Shelter #1**
 - 27.5' x 47.5' shelter
 - Brick firepit in center
- 6 Basketball Court/Deck Hockey**
 - Two full court, fenced in
 - Spectator benches
- 7 Proposed Relocated Restrooms**
- 8 Streamside Buffer**
 - Non-mowed riparian buffer
- 9 New Footbridges**
 - 2 newly constructed bridges across Two Mile Creek
- 10 Open Field**
 - Lawn area for recreation activities
 - Accessible walkways to lodge, shelter, playground, courts and proposed relocated restroom facility.
- 11 Existing Shelter #2**
 - 23.2' x 39.5' shelter
 - 12 picnic tables
 - Accessible walkways to existing restroom across Two Mile Run
- 12 Existing Restroom**
 - 16' x 21.5' building
 - New accessible walk from shelter #2
- 13 Proposed Shelter #3**
 - 20' x 40' structure
 - Parking for 9 with 1 ADA space
 - Open lawn area
 - Trailhead parking and access
- 14 Proposed Hiking Trails**
 - Natural surface
 - Maximum 4' width
 - Sustainable design



Two Mile Run Park

Brighton Township, Beaver County, Pennsylvania

LOWER PARK ENLARGEMENT MASTER PLAN



PASHEK ASSOCIATES
LANDSCAPE ARCHITECTURE | DESIGN | PLANNING

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Lower Park Master Plan Opinion of Probable Construction Costs

The opinion of probable construction costs projected here assumes improvements are constructed through a public bid process utilizing the Pennsylvania Department of Labor and Industry's prevailing wage rates. These projections are likely to give folks "sticker shock." That said, projects should not be put on hold, deferred, or not entertained as they seem too expensive to undertake. Rather Brighton Township and its partners need to "think outside the box" to determine how to construct and implement the recommendations of this plan, at the lowest possible cost while maintaining a high level of quality in the construction of that work.

It is important to note that costs are based on 2014 construction figures. Should projects be constructed in future years an additional 3% per year should be factored for inflation. Additional increases may be necessary to address the escalation of steel and fuel prices as their costs are escalating at unprecedented rates.

As noted, volunteer labor, in-kind services, and donated materials and services can reduce the overall project cost from costs projected here. Additionally, alternate sources of funding, including grant opportunities, may assist in offsetting construction costs.

Two Mile Run Park Master Plan - Lower Park Enlargement Opinion of Probable Construction Costs				
Item	Quantity	Unit	Unit Price	Extension
Site Preparation				
Re-grading of existing parking lot	2755	CY	\$5	\$13,775
Grading for Turnaround	1500	CY	\$5	\$7,500
Subtotal Site Preparation Costs				\$13,775
Site Improvements				
New Park Entrance Sign and Landscaping	1	LS	\$7,500	\$7,500
Two Mile Run Stream Bank Restoration	1	LS	\$250,000	\$250,000
Lodge Interior and Exterior Renovations	1	LS	\$75,000	\$75,000
Concrete Walkways at Lodge	620	SY	\$102	\$63,240
New Base and Pavement for Lodge Parking Lot	4200	CY	\$35	\$147,000
Parking Lot Infiltration Beds	2080	SF	\$8	\$16,640
Site Lighting - Parking Lot	14	EA	\$4,000	\$56,000
Concrete Dumpster Pad and Enclosure	1	LS	\$10,000	\$10,000
Replace Downspouts on Shelter No. 1	1	LS	\$250	\$250
Restroom Adjacent to Shelter No. 1	1	LS	\$150,000	\$150,000
Replace Existing Bridge No. 1 - 35' long x 20' wide	700	SF	\$150	\$105,000
Replace Existing Bridge No. 1 - 38' long x 20' wide	760	SF	\$150	\$114,000
Existing Park Road Extension (Beyond Bridge)	1100	SY	\$48	\$52,800
Cul-de-sac Paving and Parking	900	SY	\$40	\$36,000
Line Striping		LS	\$500	\$500
Accessible Parking Sign	3	EA	\$250	\$750
Wheel Stop for Accessible Space	3	EA	\$250	\$750
Walkways - concrete	1575	SY	\$102	\$160,650
New Shelter (no. 3) with Picnic Tables & Concrete Pad, 25'x40'	1	LS	\$50,000	\$50,000
Shelter No. 2 Rehabilitation	1	LS	\$3,000	\$3,000
Accessible Walkway, Shelter 2 to Restroom	75	SY	\$102	\$7,650
Accessible Walkway, Shelter 3 to Restroom	225	SY	\$102	\$22,950
Restroom to Serve Shelters 2 & 3	1	LS	\$150,000	\$150,000
Trail Information Kiosk	1	LS	\$7,500	\$7,500
Trail Markers	8	EA	\$50	\$400
Natural Surface Trail	3800	LF	\$10	\$38,000
New Foot Bridges over Two Mile Run	2	EA	\$75,000	\$150,000
Misc items - Trash Receptacles & Signage	1	LS	\$5,000	\$5,000
Seeding	1	LS	\$7,500	\$7,500
Riparian Buffer Improvements along Two Mile Run	650	LF	\$325	\$211,250
Subtotal Site Improvements Costs				\$1,899,330
Subtotal				\$1,913,105
Stormwater Management (10%)				\$191,311
Erosion and Sedimentation Control (1%)				\$19,131
Mobilization (3%)				\$57,393
Stake-out (3%)				\$57,393
Contingency (10%)				\$191,311
Subtotal				\$2,429,643
Design, Construction Document Preparation, Bidding and Construction Observation				\$364,447
Total Cost				\$2,794,090