Master Plan

Meeting Consensus

The consensus generated at both committee and public meetings included the following main concepts:

- Respect the exiting natural and cultural features of the site;
- Maintain existing wildlife habitats;
- Keep the park passive; and,
- Create amenities that will appeal to neighborhood residents.

It was also agreed that amenities for the park should include:

- Soft surface walking/jogging trails with exercise stations;
- Open informal play areas;
- Tot lot;
- Parking area; and,
- Picnic facilities and restrooms.

Alternative Concept Plans

Two concept plans were developed, presented to the Steering Committee and public, and discussed at length prior to proposing the final site plan. The first concept plan was developed from ideas generated during the first committee and public meetings. Most attendees were united over the concepts of keeping the uses in the park passive, and limiting disturbance to the natural features. For the most part, these concepts remained consistent throughout the development of the master plan and guided the types of park facilities proposed. These facilities included:

- An interconnected trail system;
- Picnic facilities and seating areas;
- Tot lot;
- Restrooms;
- Nature viewing / interpretation areas; and,
- Informal open playfield.

Most in attendance opposed organized sports uses for the property such as baseball and soccer. Also, discussed was the desire by many to enhance vehicular access and provide pedestrian trail links to destinations outside the site. A small parking lot off Shire Drive (future—if needed) and enhancements to the existing parking area and entrance off Snell Road was suggested to keep park visitors from parking along neighborhood streets.

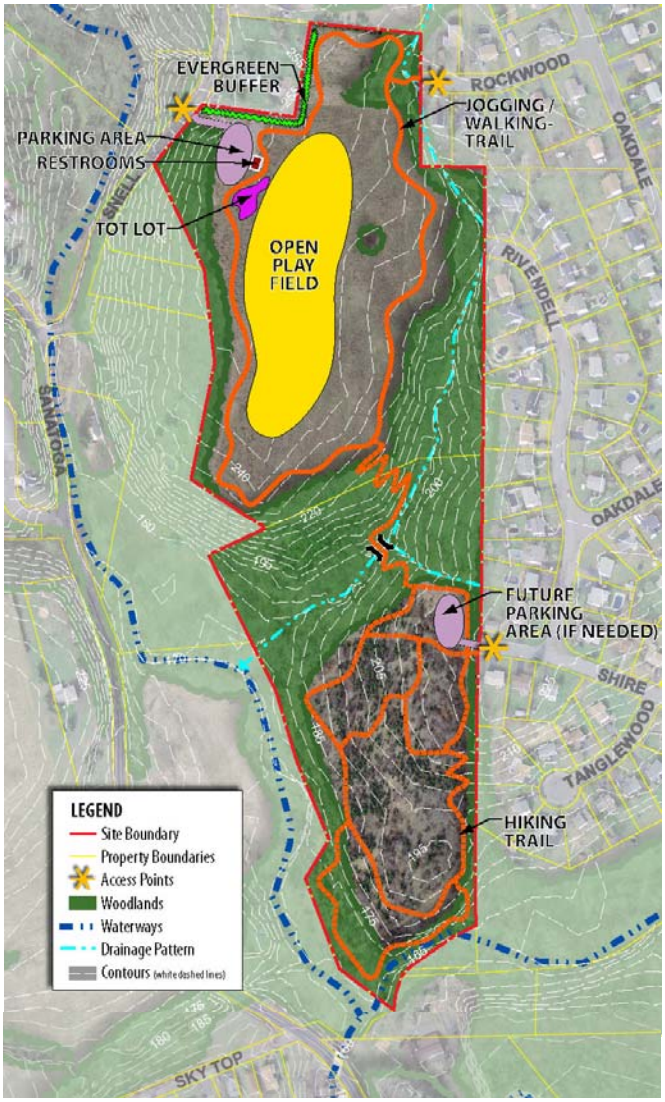
The second concept plan refined and detailed the first concept plan during subsequent meetings. This concept proposed to construct the parking area off Shire Drive in a later phase if future parking demand grew. A few other items were suggested to be constructed as a future phase including:

- A pedestrian bridge and trail connections to the south of the property;
- A trail connection to the west along Hartenstine Creek; and,
- A footbridge at Rivendell Avenue.

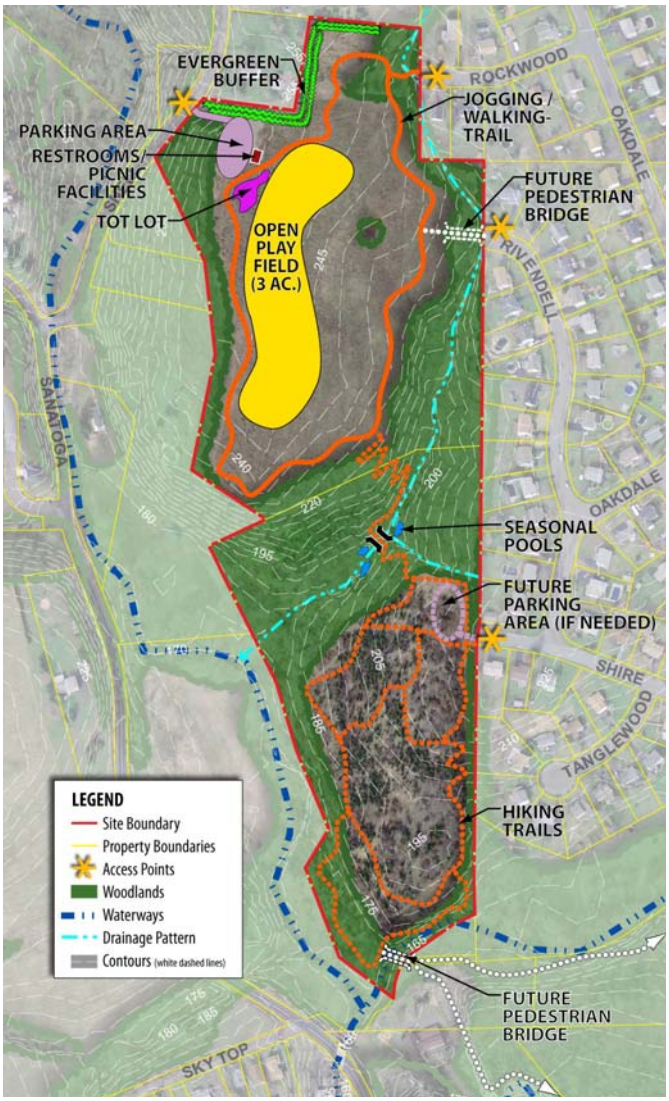
Stormwater management infiltration areas in the form of shallow pools were also incorporated into the plan near the ephemeral tributary. The consultants also presented image examples of proposed materials, facilities, and other site amenities for review and discussion with the public and committee.

Based on the comments and ideas voiced during the planning process the proposed draft master plan was developed and submitted for 30 day public review and comment period.

There was discussion about providing a dog park and designating the parking area off Shire drive as a future improvement. In the case of the dog park, a majority in attendance felt that a dog park was too maintenance intensive and was not needed. Most residents already have yards where their dogs can exercise. A dog park was also inconsistent with the consensus to develop a passive park since dog parks are active, and can sometimes be disruptive to the natural environment. Regarding the parking lot off Shire Drive, the neighbors immediately abutting this lot did not want a parking lot in this location and preferred to take a wait and see approach to gauge the future need for parking at this location.



First Concept Plan.



Second Concept Plan.

Master Plan

The Master Plan strives to preserve the existing cultural and natural character of the property. A sensitive site design limits disturbance to natural features by locating proposed features harmoniously within the site's natural topography and by avoiding destruction to existing vegetation. Picnic facilities and seating areas were located to take advantage of the scenic qualities of the property.

Photo showing site distances at the driveway entrance on Snell Road.

Vehicle Access and Parking

Vehicular access is maintained and improved at the existing Snell Road entrance. This location was chosen to utilize the existing gravel parking area and paved driveway. The sight distance at the driveway entrance will require several safety enhancements before vehicular access is permitted. Sight lines distances can be improved with the removal of vegetation and/or re-grading along both sides of the driveway entrance and near the curve of Snell Road (Township Road). Signage should be installed on both vehicle approaches to the park entrance to warn oncoming motorists about the park entrance.

Items such as locking entry gates should also be considered to reduce loitering and potential vandalism to the property. These gates could be opened and closed by the Township, neighborhood groups, friends of the park, or other volunteer groups during regular park hours.

The existing gravel parking area was seen as an existing facility that could easily be improved to meet the general parking needs of the park. Located near the existing entrance to the park, this facility limits the need for additional driveway paving. The existing parking lot is proposed to be paved with asphalt, and can accommodate approximately 20 vehicles.

It is also recommended that an evergreen screen be provided along the property boundary to the north and northwest of the main parking area to minimize views to nearby residential properties.

Due to concerns from neighbors, it was determined that a future parking area may be needed off Shire Drive to prevent visitors from parking along residential streets. Many agreed that it would be best to wait and see if future parking demand warranted an additional parking lot in this area. This parking lot is shown as a future phase, if needed.

Location of future parking area (if needed) off Shire Drive.

SIMONE COLLINS

DRAFT MASTER PLAN

Snell & Norton Park

Lower Pottsgrove Township, PA

Simone Collins Landscape Architecture
March, 2010
SC# - 09072.10

0 50100 200 300 Feet

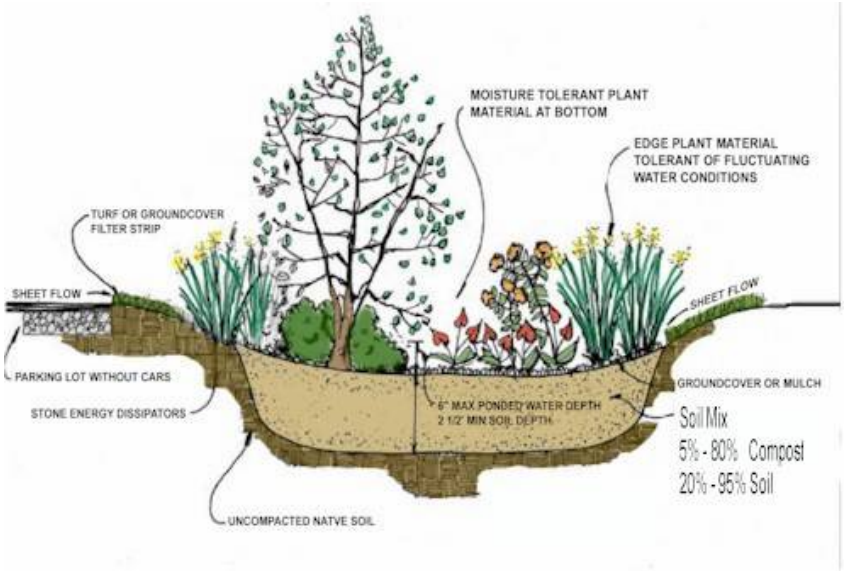
Stormwater

The best method of stormwater management to handle parking lot runoff should be determined at the start of the construction documentation phase. Soil percolation tests and an evaluation by a professional engineer will be needed before a final solution to stormwater runoff can be reached. It is recommended that traditional aboveground stormwater detention basins be avoided as these structures do not fit in with the natural context of the site. Several site sensitive approaches to stormwater management are possible.

Stormwater detention and infiltration via an underground gravel detention pit can be implemented under the proposed parking area. Porous asphalt parking should also be considered as these facilities aid in the infiltration of stormwater and have proven to remain reliable with age. Another option is to provide some of the parking spaces over stabilized turf. Stabilized turf consists of a base layer of gravel, soil, and turf. This option promotes groundwater recharge and reduces the need for large stormwater detention areas. All of these options are highly effective.

Parking can be provided over stabilized turf.

In all cases Best Management Practices (BMP's) such as bioswales and rain gardens should be implemented to compliment the systems mentioned above. Bioswales and rain gardens cleanse stormwater runoff and aid in stormwater infiltration. Native plants that are tolerant of both wet and dry conditions should be provided to enhance and stabilize these areas.



Bioswales are an environmental approach to controlling stormwater.

Pedestrian Access / Trail Connections

Pedestrian only access will be maintained and improved at the existing Shire Drive and Rockwood Drive access points in the southern and northern portions of the property respectively. A small pedestrian footbridge will be constructed at the Rockwood Drive entrance to span the headwaters of the ephemeral tributary. Trail access can also be obtained from the proposed parking area off Snell Road. A future pedestrian access is shown at the terminus of Rivendell Drive - midway along the Park's eastern boundary. However, this access is shown as a future phase due to the presence of steep slopes and an ephemeral tributary - requiring the construction of a pedestrian bridge. All proposed and future access points will provide enhanced neighborhood connectivity to the trail system proposed within the park.

In addition to connections to loop trails proposed internally on the site, connections to the overall pedestrian circulation system are also proposed. Another future pedestrian access point is shown along the southern boundary of the property with two future pedestrian trail connections extending south of the site and generally following Sanatoga Creek, and west along Hartenstine Creek. Creating an access point in this area will require a future pedestrian bridge to traverse Hartenstine Creek.

Property Acquisitions

In order to realize future trail links outside the property, the Township should continue to pursue property acquisition or trail easements on the 25 acre Blessed Theresa Catholic School site located west of the project area. This acquisition and/or trail easement would allow for a possible trail connection along Sanatoga Creek to properties north and west of the project area. The properties along Sanatoga and Hartenstine Creek to the south should also be explored for acquisition or easements to provide trail connections in these areas.

Property acquisitions should also be explored along the floodplain areas along Sanatoga Creek immediately west of the project area. This acquisition would allow for stream access in the southwest portion of Snell and Norton Park.

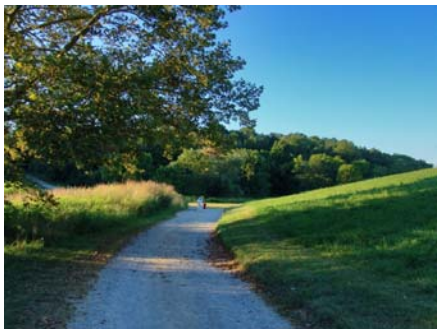
All of these acquisitions contain floodplain areas which have little development potential to private landowners.

Fitness Loop Trail

A ½ mile 8 foot wide jogging/walking trail with exercise stations is proposed to encircle the northern portion of the project area. The trail surface will be comprised of stone dust and will contain a 2-3 foot wide mown lawn shoulder. A crushed stone surface will fit in better with the context of the surrounding landscape, while limiting less desired trail uses such as rollerblading and skateboarding. Initial installation costs for this trail surface are relatively low, however long term maintenance costs increase due to this surface's higher susceptibility to erosion, especially if not properly installed with swales and cross drains. A crushed limestone surface can also serve as base material for an asphalt surface if trail use increases or funds become available for a surfacing upgrade.

This surface should only be provided in relatively flat areas that are located out of floodplains to reduce the likelihood of washout. This surface is ideal for the fitness loop trail since it is proposed to be located on relatively level ground. This topography and surfacing should also make it possible to provide an ADA accessible loop trail. This trail will provide for the widest variety of trail users. However, a topographic site survey will need to be conducted to confirm if this trail can be ADA accessible. Accessibility for the proposed fitness trail facilities should be designed in compliance with the new ADA accessibility guidelines for outdoor recreation areas. These new guidelines generally allow for slopes of 8.33% for a length of 200'.

This trail will also incorporate up to 10 exercise/wellness stations spaced strategically as breakpoints along the trail. These stations will encourage physical fitness while providing another compatible use for the park. Exercise stations are designed to improve balance, muscle strength, flexibility, and overall cardiovascular health. Typically, each station has two activity panels and a panel providing health information on the benefits of each activity. The activities often offer two different levels of challenges and include upper- and lower-body warm-ups, forearm rolls, bench steps, and standing push-ups. At least five of the stations should incorporate wheelchair-accessible options. Grab bars and nonslip treads should also be installed on appropriate stations.



A stone dust trail surface is proposed for the fitness loop trail.

Sit up / push up exercise station.

Bench steps exercise station.

Climbing exercise station.

An asphalt trail surface is proposed for the woodland connector trail.

Mown hiking trail surface.

Mulch or earth hiking trail surface.

Wildlife viewing blinds are proposed along the hiking loop trails.

Woodland Connector Trail

As the name implies, this 8 foot wide trail is proposed in the central wooded area of the site to connect the trails proposed at the southern and northern areas of the park. It is recommended that this trail contain an asphalt surface due to the steep slopes and the ephemeral stream in this area causing possible erosion and flooding issues. To negotiate the steep terrain, a series of switchbacks will be needed along the length of the trail. This trail connection will also require the construction of a pedestrian bridge over the ephemeral stream gully. It is unclear if this connection will be able to be constructed to meet ADA guidelines, and additional investigations will need to be conducted after the completion of a topographic site survey (at least for this trail).

Hiking Loop Trails

Approximately 1 mile of interconnected hiking trails meander throughout the successional cedar forest found in southern half of the project area. An advantage of hiking trails is that they can allow for access and recreational use of the land quickly at a relatively low cost. A disadvantage of hiking trails is that they generally limit the number and type of trail users due to their minimal width, steeper slopes, and softer surfaces, and generally do not meet ADA requirements.

The proposed hiking trail connections generally follow - and suggest improvements and additions to - the trail network presently found in this area. The surface of these trails will be comprised of mown grass or mulch.

To take advantage of this unique habitat a series of wildlife viewing blinds are proposed. These blinds can be constructed as a simple fence structure with viewing ports. While viewing blinds are constructed primarily for birds, they also provide opportunities for viewing other wildlife on the site.

These trails will provide connections to Hartenstine Creek with large boulders proposed at key locations along the Creek to provide delineated fisherman access.

Open Play Field

An unprogrammed contiguous lawn area totaling approximately 3 acres is proposed in the northern half of the project area. This open play field will allow for a wide variety of informal recreational uses such as throwing a Frisbee or flying a kite. These types of uses also fit in well with the passive character of the park. The location of this lawn area was chosen due to the relatively level existing topography. Minimal grading can achieve optimal cross slopes of about 2%. The proposed extent of grading will limit disturbance to existing vegetation. The orientation of this space also takes advantage of the property's viewsheds. Around the perimeter of this lawn area shade trees are proposed at key locations and will be surrounded by the existing meadow.

Manufactured climbing rocks.

Tot Lot

A tot lot is proposed immediately southeast of the existing parking area. This location was chosen due to good visibility into the play area and its location adjacent to the proposed parking lot. Due to the natural character of the site, it is suggested that the tot lot be constructed of play equipment that is more natural in appearance such as manufactured climbing rocks, climbing nets and tree stumps. Examples of play structures envisioned are shown in this report.

Playground equipment can be made to look more natural in appearance.

Restrooms / Picnic Facilities

These facilities are proposed near the high point of the site to take advantage of the existing viewshed in this area. This location also provides additional benefits since it is located adjacent to the existing parking area allowing for enhanced accessibility and ease of maintenance. These facilities are also located approximately 100 feet from the northern boundary of the property to minimize any real or perceived impacts to adjacent residences.

The restrooms are proposed to be completed during the latter phases of the park development. This is because restroom facilities are most like not warranted until use for the park grows. It is suggested that the restroom facilities be locked when the park is closed to prevent vandalism. Two options for restroom facilities are proposed:

Hopscotch using natural items such as tree stumps.

The first option proposes traditional restroom facilities, picnic tables

Proposed improvements were situated to take advantage of the viewshed found in the northern portion of the project area.

Traditional restroom facility with attached picnic pavilion.

Stand alone picnic pavilion.

Mulching restroom.

and maintenance storage spaces - all located inside a covered pavilion. Since there is no public water or sewer available on this site, traditional restrooms would require the drilling and installation of a groundwater supply well, water service lines, pump out septic holding tank and electric service lines. Traditional restroom facilities will increase the project's total cost, maintenance and overall environmental impact.

The second option does not include a pavilion but does offer picnic tables and benches located in an open lawn area. Also proposed is a two stall, standalone mulching restroom. Mulching restrooms are a "green" alternative to traditional restrooms because they do not require water or septic systems, and require less disturbance to the site. Composting toilets work by introducing air and organic matter to waste forming compost that can be reused to improve soil conditions. A solar powered ventilation fan serves a dual purpose of drying out and composting the waste product while minimizing unwanted odors. Mulching is enhanced by adding organic leaf matter such as grass clippings about once a week. Due to the relatively low use expected, it is anticipated that compost material will have to be emptied once every 3 to 6 months.

Additional information about the regulatory requirements for both restroom options can be found here:

http://www.pacode.com/secure/data/025/chapter73/s73.62.html

Image examples of both options can be found in this report.

Habitat Enhancement / Creation:

During the planning process many were interested in preserving and enhancing the existing wildlife habitats found on the site. Habitats can be enhanced by: riparian restoration, creation of seasonal pools, maintaining meadows and introduction of native plantings.

Riparian Restoration

In the areas adjacent to the creek and ephemeral stream, the removal of non-native invasive plant species and planting of native species is proposed. The use of live stakes is suggested to establish a community of native riparian plants that will stabilize the embankment of the watercourse. This could be for a Boy Scout service project.

Stormwater Management Areas / Seasonal Pools

A series of seasonal pools or stormwater management areas are proposed adjacent to the ephemeral stream located near the center of the site. These pools can be created by constructing shallow depressions that would be filled with water during the spring, fall and winter seasons and during periods of heavy rainfall. These areas can also serve as stormwater management areas which will aid in stormwater infiltration and detention. These pools create critical wildlife habitat to a variety of creatures such as salamanders and frogs. Since these pools are fairly shallow, the heat in the summer quickly evaporates water from the pools. These dry periods create unfavorable conditions for unwanted insects such as mosquitoes. To reduce possible erosion in these areas it is suggested that the sides and bottom of these pools be planted with native species that can tolerate both wet and dry conditions.

Entry / Interpretive Signage

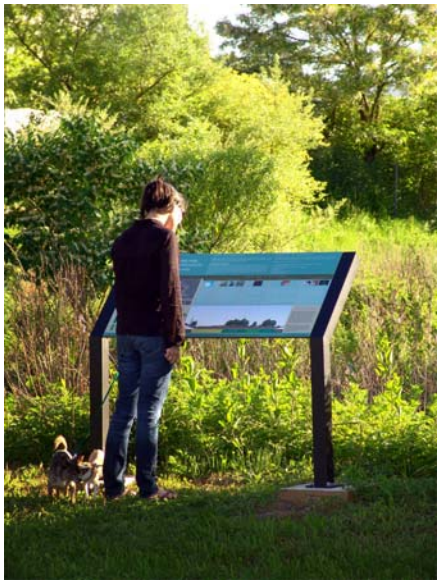
Entry and way finding signage should be provided at each entrance and at trail merge points throughout the interior site.

Interpretive signage can be used to inform and educate the public about various natural processes that occur within the Park. These signs are not limited to only wildlife or plant identification but can also help to promote green technologies and systems such as rain gardens or permeable parking areas. Some examples of interpretive signs are shown below:

Seasonal Pool—Summer.

Seasonal Pool—Fall/Spring.

Seasonal Pool—Winter.



Interpretive signage educates park users.

Other Possible Uses

Many other uses are well suited to the passive character proposed with this Master Plan and should be considered during the future development of this park. These uses are summarized in the following list:

- *Educational Uses:* The variety of habitat and wildlife found on this site make it optimal for providing outdoor education. Local schools could take field trips to the property to study any number of natural systems and processes found on the site.

Snell and Norton Park can be used as a outdoor classroom.

- *Volunteers:* Volunteer groups such as Boy/Girl Scouts could be allowed use of the property in exchange for volunteer services. These exchanges can build a greater community awareness for the property.

- *Frisbee (disc) Golf:* Although not designed or budgeted for in this master plan, a disc golf course could prove to be a compatible recreational use for the property and should be given additional consideration. These courses have minimal impact to the

environment and are relatively inexpensive to construct. However, the rising popularity in this sport and lack of local disc golf courses could possibly attract a great number of users from locations throughout the tri-county region. For this reason, this facility was not included in the master plan.

Typical disc golf course layout.

- *Orienteering:* Orienteering is a wilderness survival activity in which participants attempt to navigate to locations by using a compass in lieu of a map. Due to the size and varying landscapes of the property, this activity could be conducted most likely for children ages 8 to 12. French Creek State Park is an example of a local park that is well known for orienteering exercises.

Orienteering is a compatible use for the Park.

Site Maintenance and Operating Costs

During the design development stages of the project, the selection of furnishings, materials, and plantings must focus on durability and low levels of required maintenance.

Annual trail maintenance costs as estimated by the National Park Service can typically run from $500 per mile for low-use trails to $5,000 per mile for high-use trails. It is anticipated that the Snell and Norton trail system will experience low levels of use during most of the year with medium levels of use expected during the months from March through October. Estimated Township maintenance costs for the 1.5 mile trail system is estimated to be $3000 per year based on medium use levels. However neighborhood volunteers could also complete these tasks.

Typical trail maintenance tasks include clearing fallen trees across trails, removing dangerous trees or limbs, maintaining adequate shoulder clearances along trail, cleaning drainage structures, repairing erosion, removing invasive plant species, trash pick-up and removal, undertaking periodic inspections, and other associated tasks. During the design development stages of the project, the selection of materials and plantings shall focus on durability and low levels of required maintenance.

The following schedule lists is a monthly outline of basic site maintenance tasks that should be completed at Snell and Norton

Park. The frequency, per month, of these maintenance tasks is indicated in parentheses.

Maintenance Schedule:

January
Trail maintenance work in the winter months can continue dependent on weather conditions
Removal of dangerous trees or tree limbs
Inspect and repair/replace signs, etc as needed
Minor repairs to structures, fences, and railings
Pick up and remove trash (2)
Tree pruning
Snow removal, as necessary

February
Pick up and remove trash (2)
Snow removal, as necessary

March
Trail-wide inspection for winter damage - schedule repair work over the next two to three months
Distribute / post information about any trail repair projects for the spring
Pick up and remove trash (2)
Inspect park trees for winter damage / perform work
Inspect improvements and make any necessary repairs (1)
Inspect lawns for winter damage and perform necessary repair work
First mowing of lawns (1)
Empty restroom septic tank/compost

April
Pick up and remove trash (4)
Mow lawns (2)

May
Pick up and remove trash (4)
Mow lawns (2)
Inspect improvements / make repairs (1)

June
Pick up and remove trash (4)
Mow lawns (2)
Inspect improvements / make repairs (1)
Empty restroom septic tank/compost

July
Pick up and remove trash (4)
Mow lawns (2)
Inspect improvements / make repairs (1)

August
Pick up and remove trash (4)
Mow lawns (2)
Inspect improvements / make repairs (1)

September
Pick up and remove trash (4)
Mow lawns (2)
Fertilize lawns (1)
Inspect improvements / make repairs (1)
Empty restroom septic tank/compost

October
Trail Repair
Pick up and remove trash (4)
Mow lawns (2)
Aerate and top-dress lawns (1)
Repair damage / compacted lawn areas - seed with fescue
Inspect improvements / make repairs (1)
Fall leaf pick-up (1)
Fall tree fertilization

November
Pick up and remove trash (2)
Mow lawns (1)
Inspect improvements / make repairs (1)
Fall leaf pick-up (1)

December
Pick up and remove trash (2)
Inspect improvements / make repairs (1)
Snow removal, as necessary
Empty restroom septic tank/compost

In addition to the annual trail maintenance items outlined in the previous page, it is anticipated that periodic trail surface clean-up will be required for trails located in floodplains or other areas that experience stormwater runoff issues.

In addition to trail maintenance general park maintenance such as administrative duties, contracted services, capital outlay for equipment, and debt service will also have to be considered. It is estimated that the total operating costs in addition to regular trail maintenance will be about $1,500 per acre for the 12 active acres of the park, or about $18,000 per year.

Park and trail maintenance should not be deferred. Deferring maintenance for short-term savings is a faulty strategy with a poor chance of long-term success. Most funding agencies do not fund operational costs. If the trail quality deteriorates and does not provide a high quality recreation experience, it will loose popular support.

Security Analysis

Safety and Crime Deterrence

Basic park rules such as closing the park from dusk till dawn, encouraging use by neighbors and holding random police patrols is the best way to deter crime for this site. Due to the remoteness of the project area, there are few places that would offer clear public views into the site. Proposed trail and site design should attempt to create or enhance clear definition of the public space.

Initially, while park use is low, there may be a greater occurrence of unwanted activity. Littering, vandalism and underage drinking are typical negative activities that occur at some parks. As runners, hikers and other users populate the park, they will become the eyes and ears of “authority”. Increasing numbers of park users will have cell phones. People engaged in negative activities will not wish to be seen performing these activities and they usually will go elsewhere. This has been the general experience parks across the country.

Park users also help the Township maintain and operate the trails. When there are problems, trail users notify the Township about the

issue. This is a beneficial process that leads to the smooth operation of the park. It is important that municipal office phone numbers and e-mail addresses be posted at the various park entrances, parking areas and trail connection access points as a part of park signage.

Emergency and Maintenance Access

In the event of an emergency the fitness loop trail should be designed to be accessible by police vehicles and ambulances to deal with these occurrences. The trail will be built to a sufficient width (8 feet) and most likely be paved with crushed stone surfacing material to allow for maintenance and emergency vehicle access. Municipal maintenance vehicles, such as pickup trucks, will also access the trail for periodic inspections or maintenance. Bollards, gates and other vehicular controls should be designed to keep out private motor vehicles.

The bridges needed to cross various tributaries do not have to be built to support vehicles. The use of collapsible or removable bollards should be used at emergency and maintenance vehicle access points so that they can easily access the trail in the event of an emergency while still preventing unauthorized vehicles from entering the trail.

Typical Park Rules

- Park hours daily from 6AM to 11PM.
- Unauthorized motorized vehicles prohibited.
- Bicycles must yield to pedestrians.
- Stay to the right of the trail except when passing.
- Give a clear warning before passing other trail users on the left.
- Smoking, alcoholic beverages, and illegal drugs not permitted.
- Avoid disturbing natural features.
- Respect the neighbors of the park.
- Camping prohibited. No campfires.
- Keep pets on a short leash.
- Do not litter.

Example of Typical Park Rules.

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