MILLTOWN DAM PARK & OPEN SPACE MASTER PLAN

East Goshen, Chester County Pennsylvania

PUBLIC MEETING #2: Concept Review

Wednesday 1.25.2017, 7-8:30 PM East Goshen Township Building 1580 Paoli Pike West Chester, PA



Agenda Items:

7:00 - 7:10 7:10 - 7:45

Committee Business / Introductions Presentation (Please hold questions until end) 1. Review Public Feedback 2. Review Project Goals World Class Design Sustainable Sites Initiatives **3. Concept Review** Concept Elements • Pond Low Mow / No Mow Lawn Riparian Buffer • Meadow Wetlands 7:45 - 8:15 **Discussion / Feedback** 8:15 - 8:20 Vote for two favorite concepts 8:20 - 8:30 **Next Steps / Finish Presentation Informal Discussion** 8:30 - 9:00

Simone Collins Landscape Architecture Peter M. Simone, FASLA, RLA Project Principle Sarah Leeper, RLA Project Manager Melisa Barley, Landscape Architect Project LA

Princeton Hydro

Geoffrey M. Goll P.E.

Civil Engineer – expertise in dam removal for dam safety compliance, fish migration, floodplain reconnection, and habitat restoration.

| Meeting | Date & Time | Meeting Subject |
|----------------------------------|------------------------------------|---|
| Milltown Committee Meeting #1 | Nov 2, 7:00 pm | Project Introduction / Brainstorming |
| Milltown Public Meeting #1 | Dec 14, 7:00 pm Dec 15, 7:00 pm | Project Introduction / Brainstorming |
| Milltown Committee Meeting #2 | Jan 11, 7:00 pm | Site Concepts |
| Milltown Public Meeting #2 | <u>Jan 25, 7:00 pm</u> | Site Concepts |
| Milltown Committee Meeting #3 | Feb 21, 7:00 pm | Draft Plan Review |
| Milltown Public Meeting #3 | Mar 22, 7:00 pm | Draft Plan Presentation - 60 day review |
| Milltown Committee Meeting #4 | May 23, 7:00 pm | Final Plan Review |
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Public Brainstorming

GOALS:

- Open and transparent
 design process
- Protect and Preserve
 Privacy
- Foster ecological sustainability
 - Create low maintenance landscape

FACTS:

- Property
- Privacy
- Turtles
- Unobstructed peaceful large water view
- Insect Issues with wetland?

What Are We Losing?

- Wildlife
- Bald eagle
- Long views
- Fishing
- Hockey
- Ice skating

• Open water

• Joy CONCEPTS:

- Scenic views from the road
- Water access
- Ice skating
- **Fishing**
- Buffer planting (Lochwood Lane)
- Open lawn
- World class facility
- Pond(s)
- Options for mowing
- Willow planting
- review DVRPC plan
- Wetland fore-bay
- Pond maintenance access
- Fencing
- 2 acre wetlands
- *Maximize water*
- Walking paths
- Natural stream banks

- Fish habitat
- Homeless
- Route 3 to Strasburg Road bike way
- Trash and litter concern
- Nuisance in park concern
- No trails
- No fencing
- Cross walks
- Mow near creek
- Please don't litter sign
 - Bike trails
 - Sidewalk from Strasburg Road to Lochwood Lane
 - Use spoils to form trail bench
- Review Comprehensive plan requirements
- Money/ budget
- Keep trail to west
- Walking bridge on south at Strasburg Road
- Use existing bridge

Public Survey #1

128 Respondents



Q9: With regards to the existing Milltown Dam site, what are the 3 (three) most important aesthetic or cultural resources (1 being the most important, and 3 being the least important)?

Habitat for plants and animals

Unobstructed scenic water views

Sights and sounds of wildlife in and around the reservoir

Tranquility of the area

Plants and trees in and around the reservoir

Privacy afforded to residential properties that back onto the reservoir

Fishing

History that is intrinsic to the dam structure



Q10: After the Milltown Dam has been partially breached, what improvements you would like to see at the Milltown Dam site, please rank the top 5 (five) with 1 being the most important and 5 being the least important.



Open Space Plan & Central Chester Trail Plan

Existing Features

- Existing Trails
 PA Bike Route L
 Existing Trailhead
- P Existing
 - Existing Trail Parking
 Growth Centers
- Intermodal Stop
 - East Goshen Open SpaceHOA / Private RecreationSchools
- Proposed Features Bike Lane Shared Roadway Multi-Use Trails Restricted-Use Trails Bicycle Boulevard Signed Bike Route Priority Corridors Bike Rack
 - P Trail Parking
 - Traffic Calming Table
 - Dik Bik
 - Bike Signage Improvem
 - At Grade Trail Crossing



Signalized Crossing



Open Space Plan & Central Chester Trail Plan



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Expand, revise & add new goals throughout the public participation.

- Engage in an open and transparent exchange of ideas where all ideas are considered and where everyone's voice can be heard throughout the design process.
- Foster ecological sustainability through plant and animal diversity and by employing best practices in landscape and park design.
- Protect and preserve the privacy of adjacent and nearby residences through proper setbacks, screening and other techniques.
- Create landscapes that are low maintenance and that will create new cultural landscape values in each surrounding neighborhood.
- <u>Develop realistic completion time fames for project benchmarks</u>
- <u>Maximize open water views.</u>
- Create a world class passive recreation amenity.







Riverfront Park - Louisville, KY



High Line - New York City, NY



Upper Lea Valley - East London, UK





Stroud Preserve - Chester County, PA



Brandywine Country - N.C. Wyeth, 1930

Creating beautiful and healthy landscapes:

- Respect environments and their natural processes
- There are many standards for beautiful
- Balance Science with Art
- Strive for diversity
- Design for today and the future
- Build on opportunities to educate
- Limit inputs i.e. fertilizer, maintenance, etc.

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What are the standards for defining beautiful and healthy landscapes?



The Sustainable Sites Initiative (SITES)

The SITES program was developed through a collaborative, interdisciplinary effort of the American Society of Landscape Architects, The Lady Bird Johnson Wildflower Center at The University of Texas at Austin, and the United States Botanic Garden. SITES promotes sustainable land development and management practices for both sites with and without buildings.

SITES GUIDING PRINCIPLES

- Do no harm.
- Apply the precautionary principle.
- Design with nature and culture.
- Use a decision-making hierarchy of preservation, conservation, and regeneration.
- Provide regenerative systems as intergenerational equity.
- Support a living process.
- Use a systems thinking approach.
- Use a collaborative and ethical approach.
- Maintain integrity in leadership and research.
- Foster environmental stewardship

Sustainable
SITES
Initiative[®]

The Sustainable Sites Initiative (SITES)

RATING BASIS

- **1.** Site Context
- 2. Pre-Design Assessment + Planning
- 3. Site Design—Water
- 4. Site Design—Soil + Vegetation
- 5. Site Design—Materials Selection
 - 6. Site Design—Human Health + Well-Being
 - 7. Construction
 - 8. Operations + Maintenance
 - 9. Education + Performance Monitoring
 - **10. Innovation or Exemplary Performance**

Sustainable SITES Initiative[®]



Meadow Lake / Morton Arboretum - Lisle, IL

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SITES Certified Landscape

Shoemaker Green - University of Penn, Philadelphia PA

PROJECT GOAI



Hunts Point Landing - Bronx, New York



Evans Parkway Neighborhood Park - Silver Spring, MD

Scenic Hudson's Long Dock Park – Beacon NY

Horseshoe Farm Nature Preserve - Raleigh, NC

Existing Conditions Plan



Existing Water Coverage of Reservoir



Partial Dam Breach Concept

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Partial Dam Breach Concept – Stream Condition After



Concept Bubble Plan

| | Existing Elevation | New Elevation | Change in Elevation |
|--|---|--|---|
| Dam Spillway | 342.2 | 336.5 | 5.7 ft |
| Dam Embankment | 347.5 | 340 | 7.5 ft |
| Stream at Dam | 342.2 | 336.5 | 5.7 ft |
| Stream at Strasburg Road | 342.2 | 342.2 | 0 ft |
| Existing Wetlands | 342.2 to 344 | 342.2 to 344 | 0 ft |
| International Action International Action Stream Strea | New Po 33 tream levation 40.2± m Stream tion ± Stream Elevation 338.2± | nd 7.5 + Con Stream Elevation 336.5 Dam Emb | Antrolucture Spillway 336.5 Boad ankment 340 |

Concept 1



Concept 2

Low Mow Lawn

(Periodic Mowing)



Driveway

Parking
Concept 3

(Periodic Mowing)

Parking



Concept Elements:

Various design elements are incorporated into each concept. The following elements will be reviewed to understand the unique quality and benefits of each element and identify the objectives for including them in the concept plans.

- Pond
- Streams
- Low Mow / No Mow Lawn
- Riparian Buffer
- Meadow
- Wetlands



A pond is a <u>body of standing water</u>, either natural or artificial, that is usually smaller than a lake. They may arise naturally in floodplains as part of a river system, or they may be somewhat isolated depressions (examples include vernal pools and prairie potholes). <u>Usually</u> they contain <u>shallow water with marsh</u> and <u>aquatic plants and animals</u>. The type of life in a pond is generally determined by a combination of factors including <u>water level</u> <u>regime</u> (depth and duration of flooding),<u>nutrient levels</u>, <u>shading</u> by trees, and <u>presence or absence of streams</u>.

Benefits:

- Wildlife Diversity
- Wildlife water source
- Increased species movement
- Sediment trap
- Cultural



Pond Environments are not static

 Without human management ponds are constantly progressing to a climax plant community. A pond starts with a bare bottom that slowly gives way to submerge vegetation, emerging vegetation, and finally will fill in completely forming meadow and forest plant communities.



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What is a Pond?





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Pond Objectives for Site

- Create ponds to allow for <u>open water views</u> from neighboring homes and from Reservoir Road.
- Maintain **<u>pond depth</u>** necessary for healthy aquatic life (3' min)
- Maintain <u>water movement</u> through pond.
- Create a <u>pond forebay</u> to trap sediment
- Provide <u>vegetation</u> along pond edges to promote both terrestrial and aquatic life.
- Incorporate trees along pond edges while preserving key views into and across the site.
- Locate ponds off the main stream channel to limit sediment inputs into the pond.

Pond Objectives for Site

Control Mosquitoes

- Adult mosquitoes lay their eggs anywhere they can find <u>still</u> <u>water</u>. Within 48 hours the eggs begin to hatch, and then, depending primarily upon temperature, the larvae evolve into adults within 4 to 31 days.
 - **Combating Mosquitoes**
 - Reduce their <u>natural habitats</u>:
 - Insure water movement in ponds.
 - Remove manmade areas of standing water i.e. buckets, roof gutters, or play equipment
 - Provide habitat for <u>natural predators</u>:
 - Fish
 - Bats
 - Birds
 - Amphibians

Pond Objectives for Site

- Develop management plan for ponds
 - **<u>Remove Sedimentation</u>** from Forebay every 5 years
 - Partner with surrounding property owners to <u>limit</u> <u>fertilization</u> in surrounding areas
 - Maintain Ecological Balance with <u>removal of excessive</u> <u>vegetation</u>
 - <u>Maintain Water Flow</u>through ponds
 - <u>Encourage Aeration</u> within ponds



A stream is a body of <u>water</u> with a <u>current</u>, confined within a bed and banks. Streams are important as conduits in the water cycle, instruments in groundwater recharge, and corridors for fish and wildlife migration. The biological <u>habitat</u> in the <u>immediate vicinity</u> of a stream is called a <u>riparian zone</u>. Streams play an important corridor role in <u>connecting fragmented</u> <u>habitats</u> and thus in conserving biodiversity.

Benefits:

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- Wildlife Corridor
- Fish movement
- Ground Water Recharge

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Chester Creek north of East Strasburg Road – Depth and Width will be Similar within the Reservoir Area.



- Step stream to prevent head cutting of the culvert at East Strasburg Road and into the Wetlands.
 - Riffle or step pools
- Maintain hydrology as close to existing conditions as possible at wetlands.
- Provide vegetation along stream edges to promote both terrestrial and aquatic life.
- Incorporate trees along stream edges (cool water) while preserving key views into and across the site.
- **Develop management plan for stream corridor**
 - Monitor stream banks for erosion
 - Removal of invasive plant species

Step Pools

26/09/2012 11:52

Constructed Riffles



Low Mow / No Mow Lawn seed mixes are a specially designed blend of fescue grasses that grow to <u>form a dense sod</u> and thrive in <u>full sun or partial shade</u>. An established No Mow lawn requires little if any watering or fertilizing, and minimizes weed growth through its interlocking root system. No-Mow turf can be <u>mowed</u> <u>once or twice a year</u>, or not at all. From a distance, low-mow grass looks appealing because it is <u>thick and green</u>.

Benefits

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- Control water-runoff
- Natural filter
- Prevent erosion
- Reduces maintenance



















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No Mow / Low Mow Objectives for Site

- Provide beautiful green open areas
- Create <u>planting transition</u> from neighboring lawns into township site
- Limit <u>maintenance</u>
- Limit <u>noise</u> (mowers)
 - Limit fertilizer and watering needs
 - **Develop management for No Mow / Low Mow**
 - <u>Mow</u> 1-2 times during growing season
 - Identify areas for <u>no mowing</u> except seasonal clean up
 - Invasive monitoring and removal

What is a Riparian Buffer?

A riparian buffer zone is an area of trees and shrubs adjacent to a natural <u>waterway</u>, including streams, lakes, ponds and wetlands. The purpose of a riparian buffer zone is to capture <u>sediment</u>, <u>nutrients</u>, <u>pesticides</u> and other contaminants in order to reduce their entry into waterways. In addition, riparian buffers are a type of <u>wildlife corridor</u> that create <u>habitat</u> for wildlife activity and movement.

Benefits:

- Cool water temperatures
- Filter sediment & nutrients
- Flood control
- Habitat
- Bank Stabilization



What is a Riparian Buffer?





What is a Riparian Buffer?







What is a Riparian Buffer?



Riparian Buffer Objectives for Site

- Preserve and enhance existing riparian buffers
- Create 20' wide riparian buffers along new stream corridor / pond edges
- Incorporate trees within Riparian Buffer while preserving key views into and across the site.
 - Develop management for riparian buffers
 - Invasive monitoring and removal
 - <u>Seasonal removal of perennial material</u>
 - Periodic removal of woody vegetation as required (3-5 yrs.)



What is a meadow?

A meadow includes taller, warm season grasses. Meadows can also have blooming perennials, such as butterfly weed and blackeyed Susans. Uplands and meadows are characterized as being dry the majority of the year. Soils at these sites often consist of sandy clay and shale with very little topsoil and subject to drought. Meadows / grasslands occur natural in nature in areas of disturbance or where shallow soils can not support shrubs and trees. If left unmanaged in Eastern Pennsylvanian most meadow will grow first into shrublands and then forest. Meadow are home to a variety of plants, birds, mammals and beneficial insects.

Benefits

- Habitat and food for insects, and animals
- Natural filter of sediments and pollutants
- Prevents erosion
- Reduces maintenance


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What is a meadow?



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Meadow Objectives for Site

- Provide visually <u>open areas</u> to preserve views
 - Design areas of lower meadows and taller meadows
- Limit Pedestrian access to private properties
- Use in areas of <u>steep slopes</u>
- Limit maintenance needs mowing
 - Develop management for Meadow
 - <u>Seasonal Mowing</u> Early Spring for winter habitat and wildlife coverage
 - <u>Identify areas</u> to be allowed to <u>succeed</u> into shrubland and forest
 - Invasive monitoring and removal
 - <u>Remove</u> woody material as required

Although wetlands are often wet, a wetland might not be wet yearround. In fact, some of the most important wetlands are only seasonally wet. Wetlands are the <u>link between the land and the</u> <u>water</u>. They are transition zones where the flow of water, the cycling of nutrients, and the energy of the sun meet to produce a <u>unique ecosystem</u> characterized by <u>hydrology, soils, and</u> <u>vegetation</u>—making these areas <u>very important features of a</u> <u>watershed</u>.

- United States Environmental Protection Agency



Benefits of Wetlands

- 1. Groundwater recharge
- 2. Groundwater discharge
- 3. Flood flow alteration
- 4. Sediment stabilization
- 5. Sediment/toxicant retention
- 6. Nutrient removal / transformation
- 7. Carbon transformation
- 8. Production export (creates food that moves downstream)
- 9. Wildlife diversity/abundance
- 10. Wildlife breeding
- **11. Wildlife migration**
- 12. Wildlife wintering

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Wetland Objectives for Site

- **Preserve and enhance** existing wetlands
- For permitting purposes, replace wetlands as required
- **Develop management for wetlands**
 - Invasive monitoring and removal
 - Periodic removal of woody vegetation as required (3-5 yrs.)



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Wetland Objectives for Site

- Preserve and enhance existing wetlands
- For permitting purposes, replace wetlands as required
- Develop management for wetlands
 - Periodic Forebay sediment removal (5 yrs.)
 - Invasive monitoring and removal
 - Periodic removal of woody vegetation as required (3-5 yrs.)





Next Meetings:

Public Meeting #3: **Draft Plan Presentation**

Committee Meeting #3 **Draft Plan Direction**

Wednesday 7-8:30 PM Location: March 22, 2017 Wednesday 7-8:00 PM Feb 21, 2017

Township Building Location: **Township Building**

Township Project Website: https://eastgoshen.org/about-us/milltown-dam

Tonight's Plans and Presentation:

https://eastgoshen.org/boards/milltown-dam-committee

Web Survey https://www.surveymonkey.com/r/Milltown2-Concept



• Small Habitat Islands

• 3 Acre Pond

Concept 2

Large Island

• 2 Acre Pond

Reforestation





Concept 3

Multiple Ponds
1.5 Acre Ponds



Concept 1



Concept 2



Concept 3



VOTE FOR YOUR <u>TWO</u> FAVORITE CONCEPTS

Concept 1
Small Habitat Islands

3 Acre Pond

Concept 2

Large Island
Reforestation
2 Acre Pond

Concept 3

Multiple Ponds
1.5 Acre Ponds



Concept 1 • With Existing Reservoir Limits Overlaid







Concept 3 • With Existing Reservoir Limits Overlaid



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| | | |

Contact Info: Please Copy All Parties

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