



## Pondicherry Park Master Plan

### I. Preface

#### A. EXECUTIVE SUMMARY

The following Master Plan Report contains numerous recommendations for the long term improvements to Pondicherry Park, 59 acres located in downtown Bridgton, Maine. The recommendations are preceded by a comprehensive site assessment and analysis conducted by the consultants. From this analysis, opportunities and constraints were identified which influenced the development of goals and objectives and subsequently, the structure of the proposed recommendations.

The realization and implementation of Pondicherry Park will become a centerpiece for the community, providing a diversity of passive recreational opportunities, improving civic pride and conserving important woodland, riparian and wetland habitats for Bridgton's residents and visitors.

#### B. ACKNOWLEDGEMENTS

The collaboration between the consultants, Lakes Environmental Association (LEA) and Loon Echo Land Trust (LELT) was critical to the development of this Master Plan that will guide the future of Pondicherry Park. The consultants wish to thank all who have actively participated in the development of this plan for their thoughtful and constructive insight and direction and their substantial contributions to the final product.





## II. Overview

### A. BACKGROUND OF THE PROJECT

Through the cooperation of several property owners, Lakes Environmental Association (LEA) and Loon Echo Land Trust (LELT) were able to purchase several connecting parcels of land establishing 59 acres of contiguous land in the center of downtown Bridgton. As part of the Request for Qualifications and Proposals, LELT and LEA developed the following statement which outlines a direction and vision for the park.

*“The current owners of the properties that will become the Park have required that the Park shall remain in as much of a natural state as possible. This mandate will be balanced against the park amenities and trail structure required to provide residents and visitors a safe, organized and well articulated access to this natural landscape. The design process shall identify, incorporate and protect those ‘special places’ that have surfaced over the years on the land such as the Kneeland Spring, a feature that today generates potable water from a natural source.” (Pondicherry Park RFP, 2007)*

In addition, the mission statement states;

*“Pondicherry Park is a protected landscape of woods, wildlife habitat, wetlands and streams attracting people to low-impact recreation, education, and study – a unique public park in the center of Bridgton, Maine.” (from [www.pondicherrypark.org](http://www.pondicherrypark.org), Loon Echo Land Trust)*

Summer 2007, Richardson & Associates and Stantec (formerly Woodlot Alternatives) was retained by LELT and LEA to assist the organizations in developing a Master Plan for a nature preserve park that will include a trail system through it. Pondicherry Park will be formally gifted to the Town of Bridgton, upon completion of the Master Plan and Phase I of the park construction, as well as the development of a conservation easement associated with the property.

### B. SUMMARY OF THE PROCESS

One of the most important aspects of establishing the Master Plan for Pondicherry Park was the process through which it was developed. Experience has shown that when all members of a group and the public contribute to the development of a Master Plan, the result is a plan that is better understood and more fully supported. The process of developing the Master Plan began with a meeting with LELT and LEA to discuss the goals and objectives of the project, review available materials and to begin a dialogue regarding the future of the park. A detailed inventory and analysis of existing conditions was then conducted by the consultants through numerous site visits and analysis of Geographic Information System (GIS) maps of the site. S.W. Cole developed a Phase I-Environmental Site Assessment for the park, while Stantec Consultants (formerly Woodlot Alternatives, Inc.) conducted a Natural Resources

Evaluation. A meeting was held with LEA and LELT to review the findings of the inventory and analysis and to gain additional comments about the existing conditions. Richardson & Associates then proceeded with work on Master Plan alternatives for presentation to LEA and LELT. The plans were reviewed and comments were provided for inclusion into the Master Plan. The trail layout proposed within the Master Plan was staked out in the field by Richardson & Associates, LEA and LELT to confirm the viability of the trail layout as it related to specific conditions (e.g. slopes, wet areas, and natural features). Alterations to trail layout were made in the field as site conditions dictated. By using a GPS system for field surveying, LEA and LELT mapped the trail and provided Richardson & Associates the accurate location of the staked trails. This trail layout was used as the final Master Plan trail layout. A well attended public meeting was held to review and comment on the Master Plan. Once all comments were obtained, the final Master Plan Report was written. The time frame of this work occurred from May 2007 to March 2008.



## Pondicherry Park Master Plan

# III. Existing Conditions and Site Assessment

## A. OVERVIEW

Richardson & Associates and Stantec reviewed the following existing conditions and assessed their suitability for the proposed uses of the park.

- B. General Context
- C. Conditions Surrounding and Within the Park
- D. Natural Resources
- E. Significant Species and Habitats
- F. Soils
- G. Slope Analysis
- H. Wetland Delineation

All Site Analysis maps and reports produced during the Master Plan process can be found in the Appendix.

## B. GENERAL CONTEXT (See Appendix, Analysis A)

The larger ecological context within which Pondicherry Park resides is dominated by lakes such as Highland Lake and Long Lake and Woods Pond. The road systems around the park, such as Route 302 and Route 107 allow people to easily travel from a distance to reach the park. The uniqueness of Pondicherry Park is that it is centrally located within downtown Bridgton and encircled by Private Residences, Stevens Brook Elementary School, Bridgton Community Center, Bridgton Hospital, Hannaford's, Bridgton Public Works facility, and local businesses. People are able to walk to the park from all of these facilities.

## C. CONDITIONS SURROUNDING AND WITHIN THE PARK (See Appendix, Analysis B, E1, E2, E3)

The eastern edge of the park is bound by Stevens Brook and Willet Brook, while Willett Road and South High Street intersect the park's south and western most boundaries respectively. The other edges of the park abut private residential properties.

The Stevens Brook Trail, which is under construction, traverses past the northeast corner of the park allowing Pondicherry Park to be accessed from Main Street via the Stevens Brook Trail.



Within the park, a narrow existing trail currently runs in an east-west direction through the middle of the park, starting at South High Street and ending at the Willett Brook. Also within the park are extensive existing stone walls of various conditions and sizes, an old deteriorating foundation and chimney, and remnants of narrow gauge railroad tracks. Kneeland Spring is an active spring that dispenses a positive flow of potable water.

The views looking out from the park's edges are generally filtered views because of the existing tree canopy. Along Willett Brook one can look down the brook to obtain a scenic view or across the brook to view a clear-cut area on the eastern side of the brook by the Public Works facility. Internally the views are predominately of woods, except for a utility corridor in the northern part of the site that runs east-west.

The importance of the elements within the park varies depending on their conditions and locations. Each element within the park provides opportunities and constraints that informed the Master Plan and shaped how proposed trails and amenities were configured and located.

#### **D. NATURAL RESOURCES** (See Appendix, Analysis C and Separate binder for full report)

The Natural Resource Evaluation Report produced by Stantec outlines the natural plant communities, soil types, significant plant species and animal habitats. The complete version of the report can be found in the Appendix. A summary follows.

The plant communities within the park consist of upland and wetland plants. The dominant upland plant communities are White Pine Mixed Conifer Forest, Transitioning Beech-Birch-Maple Forest and White-Pine Mixed Conifer. The White Pine Mixed Conifer Forest is evenly aged except for several larger diameter trees. Within the Transitioning Beech-Birch-Maple Forest and White Pine Mixed Conifer Forest, 60% of the trees is White Pine, while the rest of the composition is hard wood trees.

The dominant wetland community is characterized as a Red Maple Sensitive Fern Swamp. This community exists primarily within the floodplain of Willett Brook and Stevens Brook, as well as along an unnamed tributary flowing northeasterly into Willett Brook in the southern portion of the site. A variety of trees, shrubs and herbaceous plants adaptable to wet conditions dominate this area. In addition, two scrub-shrub wetlands are present in the park. The plants dominating these areas are large to small shrubs and herbaceous materials.

Stantec in their Natural Resources Evaluation writes the following regarding the presence of invasive species;

*“Numerous non-native invasive species were observed within the site. Morrow’s honeysuckle and Bell’s honeysuckle were the most abundant, particularly within the floodplain near the Community Center in the northern portion of the project area. Additional species included oriental bittersweet, multiflora rose, black swallowwort, Japanese barberry, dame’s rocket, moneywort, and Norway maple. These species were frequently observed through the project area.” (Final Natural Resources Evaluation; Pondicherry Park, Bridgton, Maine, Stantec, November 2007).*

## **E. SIGNIFICANT SPECIES AND HABITATS**

Stantec further states in their report that while the natural communities within the park boundaries would be considered unexceptional from a state-wide standpoint based on past disturbances, size and context, the park provides valuable habitat that would be considered significant on a local level. The riparian zone and woodland areas of the park support several animal types; large mammals (e.g. deer), birds, amphibians, fish, and reptiles. In addition, Stantec's report indicates that there is wading bird and waterfowl habitat that has been mapped along Willett Brook by State agencies. This mapping is in question by Stantec because of the habitat's poor condition and the State's reliance on remote satellite imagery. Stantec contacted the State about re-mapping this area, but after discussing it with the IFW and the DEP, they were not ready to un-map or re-designate the wading bird and waterfowl habitat along Willett Brook. Section VII. Future Considerations outlines the steps needed to move forward with any work with this area.

The value of the information about species and habitat within the park is important to the development of the overall Master Plan because it provides a baseline of information from which planning decisions can be made. Review of the Master Plan will affect how the trail is developed to ensure that it supports the health of the various species and wildlife habitat within the park.

## **F. SOILS**

The soils types found throughout the park correspond directly with the plant communities described above in Section D, Natural Resources. The soils are well drained and are suitable for all the recommendations outlined in this Master Plan Report. The soil classifications include; Skerry Fine Loam, Skerry Fine Sandy Loam, Colton-Adams Association, Colonel Fine Sandy Loam and Skerry Fine Sandy Loam. A Soil map locating these soil classifications can be found in Stantec's Final Natural Resource Evaluation Report, See Appendix. Understanding the soil information is important to the development of the Master Plan from a technical perspective.

## **G. SLOPE ANALYSIS** (See Appendix, Analysis D)

The park generally slopes evenly toward Willett Brook and Stevens Brook. The upper woodland areas are dominated by grades within the 0-10% range, with a few minor areas that exceed 10%. The areas along Stevens and Willett Brook are more even and relatively level, except at the immediate bank of brooks. The slope analysis shaped how the Master Plan configured the trail layout to provide a system that was as accessible as possible.

## **H. WETLAND DELINEATION**

Stantec produced a Wetland Delineation Map and Report for a 400' corridor along the Stevens Brook immediately behind the Bridgton Community Center (See Separate Binder for Wetland Delineation Report). This area was mapped based on the intended location of the proposed pedestrian bridge that would cross Stevens Brook to connect Pondicherry Park and the downtown parking lot. The proposed pedestrian bridge and trail can, by law, be located within the wetland delineated areas, but will require State permitting. Stantec outlines the necessary permits on page 5 of their Final Natural Resources Evaluation report (See Separate Binder for report). Understanding the wetland delineation was important for positioning the pedestrian bridge shown in the Master Plan.



## Pondicherry Park Master Plan

# IV. Public Input

## A. OVERVIEW

On November 5, 2007 at the Bridgton Academy, Richardson & Associates gave a presentation to the public that described their findings from the Site Analysis, the proposed Master Plan for Pondicherry Park, and the process through which the Master Plan was derived. Following the presentation a discussion and comment session allowed the public an opportunity to comment on the work and provide their insights. Below is an outline of the public presentation followed by a list of recorded comments.

## B. PUBLIC PRESENTATION OUTLINE

The PowerPoint presentation can be found in the Appendix.

1. Introductions, Goals and Objectives of Meeting
  - A. Design Team
  - B. Goals and Objectives of Meeting
2. Brief Overview of Project
  - A. Location and Size of Park
  - B. Overview of History of Project
  - C. LEA, Loon Echo Land Trust Partnership, Roles and Objectives
  - D. Town of Bridgton's Long Term Responsibility for the Park
3. Questions and Comments on Goal and Objectives
4. Existing Conditions and Site Assessment
  - A. Physical Conditions
    - a. Contextual Location (Macro and Micro Perspective)
    - b. Proximity of the Park to Neighborhoods, School, Downtown, etc.
    - c. Future Land Use Issues Surrounding the Park
    - d. Elements Within and Adjacent the Park
      - i. Spring, Foundation, Walls, etc.
    - e. Access and Entrances to the Park
      - i. "Gateway"
      - ii. Stevens Brook Trail
      - iii. Chiropractor Office



- iv. Utility Line Easement
- v. Public Works
- vi. School
- B. Natural Conditions
  - a. Woodlot Report
  - b. Boundaries; Flood Plain, Setbacks, Etc.
  - c. Soils
- C. Views
  - a. Inside and Outside of the Park
- D. Topography and Accessibility
- E. Zones and Regions with the Park

#### 5. Question and Comments on Existing Conditions and Site Assessment

#### 6. Overview of Goals for the Master Plan

- A. Physical Layout and Elements
- B. Entrances and Connections
- C. Bridge Location

#### 7. Overview of Character and Opportunities for the Park

- A. Education
- B. Health and Fitness
- C. Flora and Fauna
- D. Art
- E. Stewardship

#### 8. Elements and Amenities Related the Character and Opportunities for the Park

- A. Benches
- B. Kiosks
- C. Shelters/Overlooks
- D. Signage
- E. Trail Markers

#### 9. Uses and Users

#### 10. Questions and Comments on Master Plan

#### 11. Wrap-Up

### **C. COMMENTS, INPUT AND FEEDBACK DURING THE PRESENTATION**

The Public's comments, issues and concerns are grouped below into related categories.

#### *Vandalism*

- Concerns with graffiti and vandalism were expressed; "if you build it, graffiti will happen."
- In reply to the above concern, an individual stated that at Highland Lake Beach vandalism is not an issue, so why would vandalism be an issue at Pondicherry?
- Another individual expressed the usefulness to establish a partnership with the High School; "Kids won't tear down what they build."

### *Mountain Biking*

- An individual felt that mountain biking should not be part of the park because she felt that "the trails in the park will be too short for mountain bikers."

### *Uniqueness*

- Many individuals expressed that the park is a special and unique opportunity, particularly to have nature and "wilderness" close to downtown Bridgton.
- "The land is a special place."

### *Amenities*

- An Individual expressed a desire to have restroom facilities within the park.
- An individual suggested that Holt Pond be model for amenities (i.e. shelter and kiosk)
- Much caution was expressed on having any type of shelter within the park
- The need for places to rest was express (i.e. need benches along the trails)

### *Safety*

- The issue of safety and emergency access was expressed.
- People felt a need to be able to identify their location within the park, in case there was an emergency. People suggested that trail markers, signs or a call box for emergency should be considered to locate people that are lost or in need of assistance.
- People also recommended that the trails be named or color coded to assist with locating a person's location.
- "People need to know where to find you, if you are hurt or have fallen down."
- People felt that access for emergency vehicles (ATV) needs to be considered.

### *Implementation*

- An individual felt that the Master Plan should be implemented gradually; "Don't out guess what is needed, wait and see what the public needs and uses."

### *Overall Character and Vision*

- The Master Plan Concept was received favorably. Much discussion expressed the desire for the park to maintain the existing natural character.
- The vision and execution of the park must make the park a "breath-taking space."
- A neighbor to the park has developed a park plan, and the suggestion was that this plan needed to be reviewed for inspiration.





# V. Master Plan Recommendations

## A. DESIGN RATIONALE FOR THE MASTER PLAN RECOMMENDATIONS

The design rationale for the Master Plan recommendations for Pondicherry Park is one of balance. The vision and goal of the park, site conditions, design aesthetics, technical design requirements, construction costs and implementation strategies are filters through which the design recommendations are viewed. Each one of these issues affects the others, thus developing a dynamic cause and effect relationship that in the end develops a balanced web of decisions. Out of this web of decisions the Master Plan derived. Likewise, the design direction and rationale for the master plan is grounded in the valuable input received from the Public, LEA, and LETT regarding their visions, goals, hopes and concerns for the park. The following Master Plan Recommendations are a result of this dynamic process.

## B. MASTER PLAN ELEMENTS

Plans and illustrations for the Master Plan Recommendations can be found in the Appendix.

### I. Trail System (See Appendix, MPI)

#### Design Rationale for the Trail System

While all types of trail systems were considered, the Master Plan recommends a staked looped system. This system is a series of looped trails that are joined together and provide the user the greatest degree of choice, and flexibility in selecting their route(s), distance covered, and areas of the park visited. The other rationale for using a staked loop system is that the implementation of the trail system can be easily phased. Once there is a need or desire for more trails, an additional loop can be added onto the already existing system.

#### Trail System Recommendations (See Appendix, MPI)

The Master Plan identifies five major loops. These loops are marked numerically 1-5 on the Master Plan. As the trail loops are constructed, names should be given to them. The layout of the loops corresponds to site conditions (e.g. slopes, and wet areas, stone walls) and the amount of space available to create a loop. In addition, there are four linear trail segments that enable people to reach the loops from the trailheads at the park's perimeter and three spurs to the Kneeland Spring, Cellar and Overlooks.

In order to establish the proposed loop system and maximize its value, it is recommended that the existing trail that runs east-west through the park be abandoned and re-vegetated.

## **2. Entrances and Trailheads** (See Appendix, SK A)

### Design Rationale and Recommendations

Five entrances and trails heads are proposed to identify the trail system and provide easy access to it from all sides of Pondicherry Park. All the plans described below are conceptual in nature expressing the design needs for each trailhead, and responding to site conditions in a general manner. However, it should be recognized that additional site information (e.g. topographic information) is needed to better understand the technical requirements of the designs so they can effectively respond to the specific and unique qualities of each area.

### Downtown Parking Lot/ Main Entrance (See Appendix, SK B)

This Entrance and trailhead is considered the Main Entrance to the Park along its east border. The Entrance is a 36' x' 20' space on the north side of the existing garage. The conceptual sketch in the Appendix illustrates a trailhead that includes benches, paving, bike racks and landscape plantings. An elevated boardwalk leads from this entrance to the pedestrian bridge. The layout of the elevated boardwalk must consider the proposed level spreader as part of the future downtown parking improvements. This is illustrated in SK B as a dashed line near the existing garage.

### Public Works Entrance (See Appendix, SK C)

A trailhead, parking, and kayak/canoe launch are proposed near the Public Works facility. Parking for four cars is proposed. A gravel path 8'-10' wide leading to Willett Brook from the parking lot will allow vehicles carrying canoes and kayaks access to the brook. A wood deck structure at the water's edge is recommended to assist in the staging of canoe and kayak trips. A trailhead including a sign shall be on the west side of Willett Brook. A proposed pedestrian walkway cantilevered off the north side of the existing bridge will allow safe pedestrian access to the trailhead from the parking lot area.

### Entrance alongside the Chiropractor's Office Building (See Appendix, SK D)

This entrance and trailhead is located on South High Street, alongside the Chiropractor's office. The recommendations for this entrance include a small trailhead consisting of a sign, kiosk and a bench. Since there is no parking associated with this entrance and trailhead, people will have to use alternative parking areas. While Bridgton Hospital's parking lot across from the trailhead is the closest, a formal arrangement needs to be made with the owner of this facility as part of the implementation of this entrance.

### Entrance from the Utility Corridor on South High Street (no illustration provided)

An easement through the Utility Corridor provides a potential entrance and trailhead at the northwest corner of the park. It is recommended that, if viable, 3-4 parking spaces should be included, along with signage and an informational kiosk.

## **3. Overlooks** (See Appendix, MPI and DTL 2)

### Design Rationale and Recommendation

Overlooks allow people to get off the trail, rest and observe the natural surroundings. For these reasons, the Master Plan recommends three overlooks be located strategically along Willett Brook. The Master Plan shows the specific areas for the three overlooks, but their exact location has not been finalized. Specific site conditions, predominant view directions and the general sense of a "beautiful surrounding" guide their finalization. As the overlooks are developed the following design considerations should be made.

#### Design Considerations for Overlooks (See Appendix, DTL 1)

- The position of the overlooks should maximize the predominant views.
- Overlooks should accommodate a minimum of four people.
- Seating opportunities need to be arranged for people to observe their surroundings as well as accommodate social interaction.
- Overlooks should have a single entrance and exit. Attention should be given to placing the entrance / exit so it does not interfere with the use of and/or views from the overlook.
- Accessibility guidelines need to be considered.
- Two overlook types should be considered.
  - a. The first is a granite block overlook comprised of 18” tall split granite blocks arranged in a circle. This type of overlook is appropriate for level ground and away from the top of the bank. Permanence and durability are distinct advantages to this type of overlook. The ability to construct this type of overlook becomes more of a challenge.
  - b. A wooden overlook supported on concrete pylons is appropriate for projecting beyond the top of the bank or providing an elevated overlook. Note that no structure wider than four feet in width can be constructed within the shoreland zone 75 feet from the brook’s normal high water mark.

#### **4. Kneeland Spring and Foundation**

##### Design Rationale

The Master Plan recognizes that the Kneeland Spring, the old foundation and the chimney are significant historical cultural artifacts within the Park. When dealing with historical artifacts, the age and cultural or historical significance need to be considered. While these artifacts are not significantly old in respect to overall human history, they do tell a story about how the land was used. For this reason, the Master Plan recommends that they remain (in some capacity) as cultural references within the park. The challenge with these artifacts is how to provide safe public access to them without endangering the artifact or the public.

##### Recommendations for the Foundation, Chimney and Kneeland Spring

The Foundation is in disrepair and presents liability issues. It is the recommendation of this Master Plan Report that the foundation hole be filled to a level that allows for an 18” reveal of the concrete foundation. This will provide a seat height wall and historical reminder of the structure that once stood there. An interpretive sign describing with text and illustrations the historical significance should be introduced. While the recommendation for the chimney is that it remains in place and the public should be able to touch it and move around it, an experienced mason should be consulted to ensure that the chimney is structurally secure. Any significant repairs should be finalized prior to the public having access to the chimney.

Because the Kneeland Spring is an active spring, the water should be routinely tested for its capability as a source of potable water. If it is deemed potable, then the recommendation is that the spring be safely covered with one large stone placed over the top of the opening to ensure the safety of the water and then tapped to allow people to drink from it. A specific access point or points should be defined and the surface material around the Kneeland Spring should be considered to ensure that compaction of the surface does not occur because of overuse or provide runoff into the spring itself. A wood platform at the spring should be considered.

## 5. Site Amenities

### Design Rationale

There was much discussion with the public, LEA and LET about the type and number of amenities or whether any site amenities should be included in the park. The amenities recommended by this Master Plan are to be natural in character and visually unobtrusive. They should be built using natural materials, and construction practices that minimize disturbance to the park. The rationale for including the amenities listed below is that they provide the essential elements for a pleasant experience while respecting the inherent qualities of the site and the intentions for the park. They contribute to the park by establishing a clear wayfinding system and providing opportunities to rest, gather, and observe nature. There was initial discussion about including a shelter and/or picnic area within the park, but because of the size, amount of disturbance needed to construct such structures, the extent of grading and leveling, as well as the visual implications they would have, they were not included within the plan. This Master Plan recommends that if the open field west of the Pondicherry Park is purchased at a later date, a shelter and/or picnic area could be considered in that existing open area.

### Recommendations and Considerations for Site Amenities

The following site amenities are recommended for inclusion within Pondicherry Park. Prototypical examples of these amenities can be found in the Appendix, pages, DTL. 1.

- Kiosk/Signage
  - Entrance
  - Interpretive (historical/educational/environmental)
  - Informational (regulations/plans)
- Trail Markers
- Overlooks
- Seating
  - Benches
  - Seat Height Boulders or Granite Blocks

While the above amenities have not been designed, the following design considerations need to be considered:

- The design style of the amenities should consider developing a hierarchy among the elements (e.g. a dominant entrance sign, a subordinated wayfinding sign and less obtrusive trail marker).
- The design of amenities should meet applicable accessibility standards.
- All materials used for the construction of the amenities should be environmental friendly. When using wood products, the lumber species, grade and finish should provide the longest four season protection.
- When possible, materials should be supplied by local or in-state vendors.
- Erosion control measures should be in place where needed prior to any construction.

Below is an outline of specific site amenities and their associated design considerations.

### Kiosks/Signs (See Appendix, DTL 1)

- All graphics on signs need be readable from appropriate distances (entrance signs should consider being viewed from a traveling vehicle vs. interpretive signage for a person up close).
- Information and regulatory signs should be manufactured using a laminate material.
- Entrance signs could be painted wood.

- The entrance sign could have a stone base and wood post and beam.
- Kiosks could include a rainproof enclosed box where maps and brochures can be stored for the public to use.
- Kiosks should be constructed out of clear cedar and include a shake shingle roof.
- Interpretive panels should be low and be tilted at 30 degrees to the ground surface.
- Simple signs requiring a single post should use a 4" x 4" cedar post with a metal cap.
- All hardware used in the construction of the signs and kiosks should be of marine grade quality.

#### Trail Markers (See Appendix, DTL 1)

- Trail markers need to be visible from the trail and placed along the trails at regular intervals.
- One of the following two types of trail markers should be considered to mark the trail paths
  - a. 4"x4" colored laminated diamond shape marker posted on trees, or
  - b. 4" x 4" x 18" to 6' tall upright wood posts with the colored markings and text.
- A trail marker (sign on 4" x 4" post) at all trail intersections could be used to identify the direction and miles for the next trail loop.

#### Seating (See Appendix, DTL 1)

- Two bench types should be considered.
  - a. Wood or naturalized stone backless bench(es)
  - b. Boulders set at seat height and integrated into the landscape
- Seating should occur at all the entrances and trailheads, at the overlooks and periodically along the trail.
- Seating heights and configurations must conform to all state accessibility standards.
- Concrete footers are required at all four feet of the benches. The concrete footers shall be level with each other. The bench shall be securely attached to the concrete footers.

## **C. CONSIDERATIONS**

### **I. Trail Construction**

Pondicherry Park has numerous site conditions that will require special consideration as the trail develops. Likewise, desired trail widths, surface materials and accessibility standards will affect how the trail is constructed. Each one of these considerations is outlined below and recommendations are provided that address in general terms the nature of construction. Because the Master Plan recommendations are not intended to be technical; the appropriate construction method for each segment of the trail system needs to be evaluated and determined based on site specific conditions (soils, slopes, vegetation, etc).

#### Trail Material and Width

The typical trail section for any trail includes the trail bed, the surface on which people walk and the trail way, the maximum limit of clearing through which the trail bed moves. (See Appendix, DTL 2) The trail way allows for shoulders and proper drainage to occur. This Master Plan recommends a 3'-6' wide (minimum) trail bed and a 5'-6' wide (minimum) trail way. This width of the trail bed and trail way can be widened in the future as the volume of people using the trails increases. The trail bed should be free of obstacles such as downed trees, rocks and tree roots. Tree roots greater than a 1" in diameter should be removed or covered with wood chips or compacted stone dust. Downed trees crossing the trail way should be cut to accommodate the trail way. The remaining

downed tree shall remain as part of the forest floor. In order to provide a safe walking zone, trees with branches crossing over the trail way need to be limbed up to a minimum of 8' above the ground. The trail bed should have a minimum of a 2% cross pitch to allow water to move across the trail bed. The ground surface material should be a compacted earth and leaf duff allowed to accumulate on the trail bed. While this may be the ideal trail section, certain trail sections within the park will need to vary according to specific site conditions. See below for specifics.

#### Trails Crossing Walls

When the trail must cross the remnant boulder walls that exist in the park, a 5' section of the stone wall should be removed and the finished grades of the trail bed should be level to allow the trail to move past the walls. The trail should bump out 3' on either side of the wall to allow people to step off the trail to allow approaching people to pass through the wall. (See Appendix, DTL 2 for detail.)

#### Trails Traversing Slopes

When the trail traverses a slope steeper than 4%, a side slope needs to be built up with structural grade gravel and stone material to accommodate the 4' wide trail bed with a 2% cross pitch and a 6' wide trail way. The side slopes should to be loamed and planted with native plant species to effectively stabilize them. (See Appendix, DTL 2 for detail.)

#### Wet Conditions

When the trail must cross wet areas diagonally or traverse them, a boardwalk system needs to be considered. The boardwalk should be 6' wide to accommodate 2 people crossing opposite each other. In order to provide a defined raised edge, a vertical wood member shall be secured along the entire length of both sides of the boardwalk. The finished grade of the trail and the boardwalk need to be flush with each other.

While the boardwalk can be custom built, companies such as Wickercraft Co, Inc. ([www.wickcraft.com](http://www.wickcraft.com)) produce a pre-fabricated raised boardwalk system that is easy to install and meets the requirements for the recommendations outlined above. (See Appendix, DTL 2 for images.) "Synthetic woods" should be considered as an alternative to natural or treated wood as a means of minimizing long term maintenance.

#### Accessible Trails

The intention is that the proposed trail system for Pondicherry Park be ADA compliant and as fully accessible as possible. The slope analysis completed for this report (see Appendix, Analysis D) identifies the percentages of slope throughout the park with the proposed trail system overlaid for the purpose of illustrating areas where accessibility may or may not be possible. This information was produced using only aerial and GIS survey information. Accessibility of the proposed trails needs to be field verified as the trails are being constructed. Specific alignment adjustments should be made as necessary to achieve accessibility goals.

When the trail must descend or ascend a slope steeper than 8%, alternative strategies, such as traversing the steep slopes laterally or use of switch backs, should be implemented to reduce the overall gradient of that trail segment. Resting area(s) and benches need to be placed adjacent to the trails at regular intervals. The recommendations outlined in this Master Plan Report support the use of the federal guidelines for outdoor areas (See [www.access-board.gov/news/outdoor-nprm.htm](http://www.access-board.gov/news/outdoor-nprm.htm)).

## **2. Implementation/Phasing Strategy** (See Appendix, MP 2)

The staked loop system recommended for Pondicherry Park lends itself to a phased implementation strategy. Since one of the benefits of the loops is their ability to build off each other, the proposed trail system can be expanded as additional land is considered for purchase in the future. The Master Plan recommends building the loops and trail segments that maximize a person's ability to use the Park, while minimizing the initial capital and effort to build the trail system. A "wait and see" approach should be used to realize which and when other trail loops and segments are built. The Master Plan recommends that in the first phase of the project, Loop 1 is built in its entirety. Trail segments and parts of other loops should also be built in phase I to establish a linear trail along Willett Brook. The following outlines the phasing strategy for the first and later phases for the implementation of the recommendations.

### First Phase

- A. Build all the entrances and trailheads and associated amenities (excluding the entrance/trailhead at the utility corridor).
- B. Install the entire length of Loop 1.
- C. Install the south and west section of Loop 2.
- D. Install the south section of Loop 4.
- D. Install the northern section of Loop 3.
- E. Install the trail segments to connect the all the entrances/trailheads to the trail.
- F. Install the segment to the cellar foundation and chimney.
- G. Build the pedestrian bridge.
- H. Retrofit the cellar foundation and structurally secure the chimney.

### Later Phase(s) (in no particular order)

- A. Build all remaining sections and loops.
- B. Cap Kneeland Spring.
- C. Build the overlooks.
- D. Build the entrance and trailhead at the utility corridor.
- E. Build the second pedestrian bridge.

## **3. Uses Within the Park**

### Passive Recreation

The intention of Pondicherry Park is to provide passive recreation opportunities that are compatible with the natural setting and respectful to other people using the park. The natural setting includes woodlands, rivers, wetlands and local flora and fauna. This type of environment is conducive to activities that have a "low impact" on the land such as walking, running, nature watching, cross-country skiing, snow shoeing, canoeing and kayaking.

### Outdoor Education

The park also provides opportunities for interpretive natural history programs, and its close proximity to Stevens Brook Elementary School makes it an opportune location for an outdoor learning experience. The visitors to the park have the ability to observe and learn from nature over time. This requires a natural setting that is undisturbed.

### Dogs and Activities not Allowed within the Park

While Pondicherry Park is intended for passive recreation it is also a nature preserve intending to protect, conserve and foster the flora and fauna within the park. The park activities need to be compatible with the plants and animals that rely on the park as either feeding or breeding grounds

or living environment. The park is used by white-tailed deer, mink, snowshoe hare, beavers, and various bird species, including neo-tropical migratory bird species, such as various warbler species, the white-breasted nuthatch, and Blackburnian warbler, among other animals. Activities that degrade the environment, disrupt animal habitats, or produce loud noise go counter to the park's goals as a nature preserve. Such activities include hunting, riding a bicycle and driving any motorized vehicles such as snowmobiles or ATVs and should not be allowed in the park. Likewise, dogs should not be allowed because of their potential ability to disturb the plant and animal populations through barking, disrupting an animal's scent through urination and defecation, chasing animals, digging and walking indiscriminately on plants.



## Pondicherry Park Master Plan

# VI. Maintenance and Environmental Concerns

### A. INVASIVE PLANTS

Numerous non-native invasive species were observed within Pondicherry Park. Stantec outlines in the Natural Resource Evaluation that

*“While eradication of these species (exotic) within the project area is likely impossible due largely to the overall abundance and the accumulated seed bank, containment of the species and prevention of further spread into more sensitive areas (e.g., riparian areas) are feasible. Management strategies should include survey measures to locate smaller, localized occurrences within the project site followed by control measures to eradicate such occurrences. Control measures should implement a combination of hand pulling or cutting and targeted herbicide applications by a licensed applicator. Hand pulling and cutting efforts are most successful during the beginning of the growing season, prior to the maturation of fruit on the plants (Final Natural Resources Evaluation; Pondicherry Park, Bridgton, Maine, Stantec, November 2007).”*

### B. HEALTH OF THE WOODS AND PLANT MATERIAL

A forester with expertise in the enhancement of woodland plant communities found within the park should be hired to provide guidance on how to increase the health, longevity and diversity of the woods. While the objective of the park is to protect and preserve the land, it also must foster and encourage new growth (plant and animal) to maintain the longevity of the woodland character and habitat.

### C. TRAILS AND AMENITIES

The trails should be maintained regularly throughout the year to reduce general wear. The following is a list of maintenance considerations:

1. Ruts from over-use need to be filled, while ruts from improper drainage need to address the source of the water by diverting it away from or under the trail.
2. Downed trees that cross the trails need to be cut out and left to decompose naturally.

3. The amenities need to be checked yearly to ensure that they are safe for visitors to use (e.g. splinters, loose footings, missing parts).
4. Brochures or maps that are available for the public to take at kiosks need to be restocked regularly.
5. Side slopes to all the trails need to be checked regularly to ensure that they are not compromised or failing.
6. All the boardwalk planks need to be regularly checked and any weak or rotten wood replaced.
7. Any trail segments that are destroyed by weather conditions such as excessive flooding, need to be repaired.
8. All litter and debris left by people needs to be removed. At regular intervals, someone should walk the property to ensure that it is clean.
9. On a regular basis, (as determined by a water quality specialist) the Kneeland Spring needs to be tested for its potability.



## Pondicherry Park Master Plan

# VII. Future Considerations

### A. REGULATORY NEXT STEPS

The area within 75 feet of Willett Brook has been designated as a Stream Protection District according to the Official Shoreland Zoning Map for the Town of Bridgton. In addition, the 100 year floodplain along Willett Brook meets the Town definition of a Resource Protection District. Typically, a Permit by Rule is needed for any work in these areas. The following information provided by Matt Arsenault, Stantec in an e-mail to Richardson & Associates dated 11/20/2007 outlines the issues surrounding obtaining permits from the DEP prior to any construction;

*“After discussion with the IFW and the DEP, they were not ready to un-map or re designate the wading bird and waterfowl habitat along Willett Brook (the reports include a location of this habitat). If a trail is still proposed through this area, there will be other steps that you will need to take with regards to permitting. Typically, impacts to significant wildlife habitat such as wading bird habitat require an Individual Permit issued from the DEP. The DEP wasn’t willing to waive this permitting need for a trail at this point. They will need more information about the specifics of any trail including location, length, average width, etc. before any waiver is issued. With that said, you will want to schedule a pre-application meeting with the DEP once you have a better sense of the trail layouts in order to determine which state permits will be required and which ones may be waived. Chris Woodruff at the DEP Portland office is familiar with this site. The IFW (Judy Camuso) has expressed interest in being in attendance at any pre-app meeting as they are familiar with the site and can provide further input on appropriate trail locations through this area. The IFW recognizes that the habitat has been degraded in the past, so there is a more than likely chance that an Individual Permit will be waived once the DEP can review the plans and see that the trail isn’t going to negatively impact any habitat (most of the suitable habitat is on the opposite side of the stream anyways). The IFW also recognizes the value of a trail through that area, especially a nature-based trail. The presence of the habitat is certainly not a deal-breaker for that area; it’s just takes a little more time to plan it to protect the resources.” (E-mail From Matt Arsenault to Richardson & Associates, 11/19/07)*

It is clear from this information, a pre-application meeting on site with DEP and IFW representatives should be scheduled prior to any construction activities. Following the outcome of that meeting and the submittal and approval of any necessary permits, construction can begin.

### B. FUTURE ACQUISITIONS (See Appendix, MP 3)

The plan MP 3, entitled Future Planning Efforts and Establishment of Partnerships found in the Appendix, shows two parcels of land that should be considered for future purchases based on the values they would bring to the Park. The open field on the north side of the park offers the opportunity to place a shelter or a picnic area in an already cleared opening. The ecology of the open field could complement

the woodland and riparian ecosystems already within the park. The triangular shaped property on the south side of the park lessens the linear nature of the land along Willett Brook. It also offers the opportunity to construct a trail across this land to develop another loop.

### **C. LONG TERM PLANNING** *(See Appendix, MP 3)*

The Town of Bridgton has the unique opportunity to have a significant park in heart of its downtown. Further future planning efforts can expand this opportunity to include an integrated park and open space system that links to, builds upon, and relates to Pondicherry Park. Future parks and open spaces could complement Pondicherry's passive recreation goals, by providing active recreation opportunities. The Town of Bridgton should consider developing a process to establish a comprehensive Parks, Open Space, Trail, and Recreation Master Plan for the town. The plan, MP 3, found in the Appendix, illustrates the components of a comprehensive system immediately surrounding Pondicherry Park that should be considered as part of the town's future efforts. The town should also consider the restoration of the clear cut that has occurred on the east side of the Willett Brook on town-owned land. This area has the opportunity to be developed into an additional park space with active recreation and restoration as its focus. It should be linked to the school and the community. Opportunity also exists to integrate the Stevens Brook Elementary School into a future Parks, Open Space, Trail, and Recreation Master Plan by recognizing and utilizing the open spaces surrounding it and also by building a second pedestrian bridge that crosses Willett Brook connecting the school to Pondicherry Park. Developing partnerships with businesses, the community center, and the residents of Bridgton will serve to foster the educational outreach, financial support, and stewardship opportunities needed to make both Pondicherry Park and future parks and open spaces a reality.



## Pondicherry Park Master Plan

### VIII. Appendix

**A. Plans**

**B. Public Presentation Graphics (from PowerPoint presentation)**

**See Separate Binder**

**C. Natural Resources Evaluation by Stantec Consulting (formerly Woodlot Alternatives, Inc.)**

**D. Wetland Delineation Report by Stantec Consulting (formerly Woodlot Alternatives, Inc.)**

**E. Phase I-Environmental Site Assessment by S.W. Cole**