



Wild flower garden and approach to the existing Trailside Museum building (Pressley Associates 2007).

Trailside Master Plan

Executive Summary

The Trailside Museum at the Blue Hills Reservation in Milton, Massachusetts is owned by the Massachusetts Department of Conservation and Recreation (DCR) and operated by the Massachusetts Audubon Society (MAS) through a 5-year permit agreement. The facility opened in 1959 and was initially operated by the Museum of Science. In 1961, the Massachusetts Zoological Society (later the Boston Zoological Society) assumed management. MAS took over as operator of the museum building and its associated site in 1974, with the mission “to promote awareness, appreciation and active concern for our environment among people of all ages and to provide enjoyable, affordable environmental education by drawing upon the natural resources of the Blue Hills Reservation, Trailside and beyond.”

In 2007, DCR initiated this Master Plan to provide a ten-year vision for the Trailside buildings, site and educational exhibits. This Master Plan represents the culmination of a year of work by the project proponents (DCR and MAS) and the consultant team, with input from the Trailside Advisory Committee. Trailside is a pivotal component of the Blue Hills Reservation,

Massachusetts’ largest park in the metropolitan Boston area, as it functions both as the primary interpretive center for the Reservation, but also because it is located at the base of Great Blue Hill and the most popular trailhead. This Master Plan envisions a new nature education center that forms a gateway to the Blue Hills, with up-to-date interpretive exhibits that celebrate the ecology, geology, cultural resources, habitats, and plant and animal species that comprise this diverse park. With Trailside set to celebrate its 50th anniversary soon, the Master Plan provides a vision with achievable goals for Trailside’s next fifty years.

The project area for the Trailside Master Plan consists of a nine-acre area that includes the current building complex, two parking lots, pond, animal exhibit enclosures, a historic restroom building, and trailheads leading to the summit of Great Blue Hill. Two adjacent facilities, the Blue Hills Ski Area and the Blue Hill Observatory also use the Trailside parking areas, as do recreational visitors who use the park’s extensive trail system.

DCR

The Massachusetts Department of Conservation and Recreation was established in 2003 as a merger of the former Metropolitan District Commission (MDC) and the Department of Environmental Management (DEM). DCR is responsible for the care and management of 450,000 acres of land, including over 2000 buildings, 28 campgrounds, 65 beaches, 13 skating rinks, 44 pools, 2 golf courses, 64 playgrounds, and numerous athletic fields. The agency also manages 650 lane miles of parkways, 278 bridges and 300 dams, and oversees watershed and forestry management across the state.

The mission of DCR is to “protect, promote and enhance our common wealth of natural cultural and recreational resources.” To achieve this, the agencies cares for and oversees management of a broad diversity of natural, cultural, and historic resources and provides quality public outdoor recreational opportunities that are environmentally sustainable, affordable, and accessible to all citizens.



20. THE BLUE HILLS OVER MUDDY POND WOODS.

Drawing of The Blue Hills, 1893 (Report of the Metropolitan Park Commissions, 1893).

Blue Hills Reservation

Originally established in 1893, and now over 7,000 acres in size, the Blue Hills Reservation is the Commonwealth's largest urban park, extending from Quincy to Dedham, and Milton to Randolph. It's most distinguishing characteristic is Great Blue Hill, which reaches a height of 635 feet and is the highest of the twenty-two hills in the Blue Hills chain. From the summit, park visitors can see over the entire metropolitan Boston area. With its scenic views, varied terrain and 125 miles of trails, the Blue Hills Reservation offers year-round enjoyment for visitors.

Massachusetts Audubon Society

Founded in 1896, the Massachusetts Audubon Society (MAS) is the oldest independent state Audubon society in the nation and the largest environmental organization in New England. MAS protects more than 33,000 acres of conservation land in Massachusetts including 58 wildlife sanctuaries, 45 of which are open to the public and serve as the location for its education and conservation programs such as Trailside. MAS conducts educational programs for nearly 200,000 school children and adults each year, and advocates for sound environmental policies at the local, state and federal levels. In their 2000-2010 Strategic Plan, MAS defined their role as a “leader and catalyst for conservation, by acting directly to protect the nature of Massachusetts and by stimulating individual and institutional action through education, advocacy and habitat protection.” Trailside is both one of the most-visited of MAS's sanctuaries and the only facility large enough for meetings or functions that involve all MAS staff.

Trailside Management and Operation

Trailside is the interpretive center for the Blue Hills Reservation and is managed by MAS. The existing building is open Wednesday through Sunday, and Monday holidays, 10 A.M. to 5 P.M. Trails to the summit of Great Blue Hill are accessible from the Trailside parking area and are open every day from dawn to dusk.

The Museum building contains indoor exhibits that introduce visitors to the native wildlife and natural and cultural history of the Reservation. Outside, the associated site offers live animal (zoological) exhibits featuring a River Otter, Red-tailed Hawks, Snowy Owl and other native wildlife. The interior exhibits require a small admission fee (\$3 for nonmember adults; \$1.50 for nonmember children (3-12); \$2 for nonmember seniors in 2008), and MAS offers free weekend programs with admission.

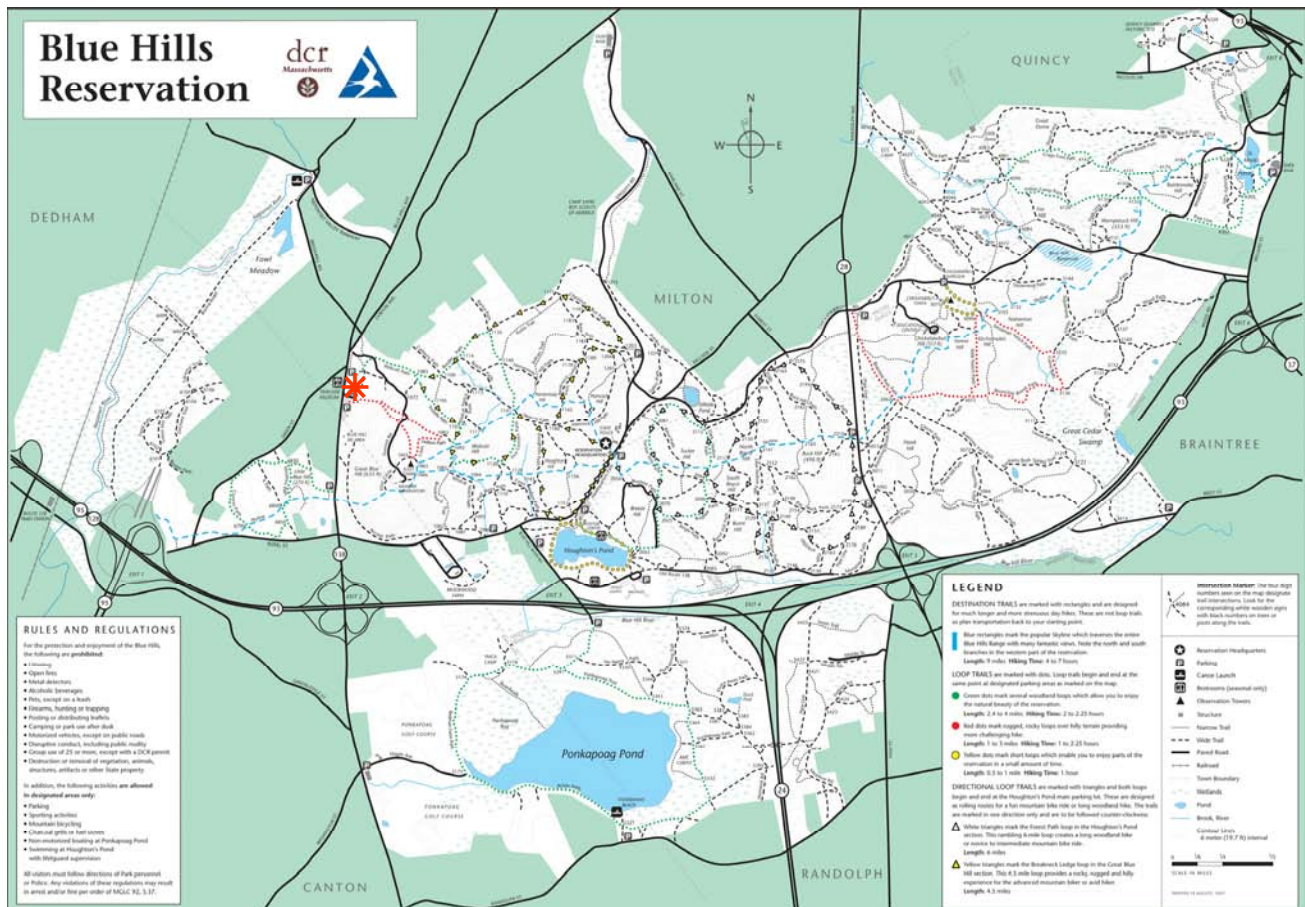
MAS provides a wide variety of both on-site and remote programs that are based at Trailside, serve a diverse audience, and which have a direct connection to the natural resources of the Blue Hills Reservation. Indoor programs, included with admission, explore adaptations, endangered species, and other aspects of New England wildlife. Outdoor programs can be customized for specific audiences, including adult groups; many include a lecture and walk with an experienced naturalist and may be general in content or focused on a specific ecological theme. Off-site education programs run by MAS staff transport

program animals for interactive programs with a naturalist focused on nature of New England and the Blue Hills in particular. While these programs are most often used for in-school programs, MAS staff bring animals to other venues for adult-oriented programs. These programs and indoor exhibits are intended to reinforce DCR and MAS conservation and stewardship missions and encourage participants to explore the "real" museum/outdoor classroom – the Blue Hills Reservation.

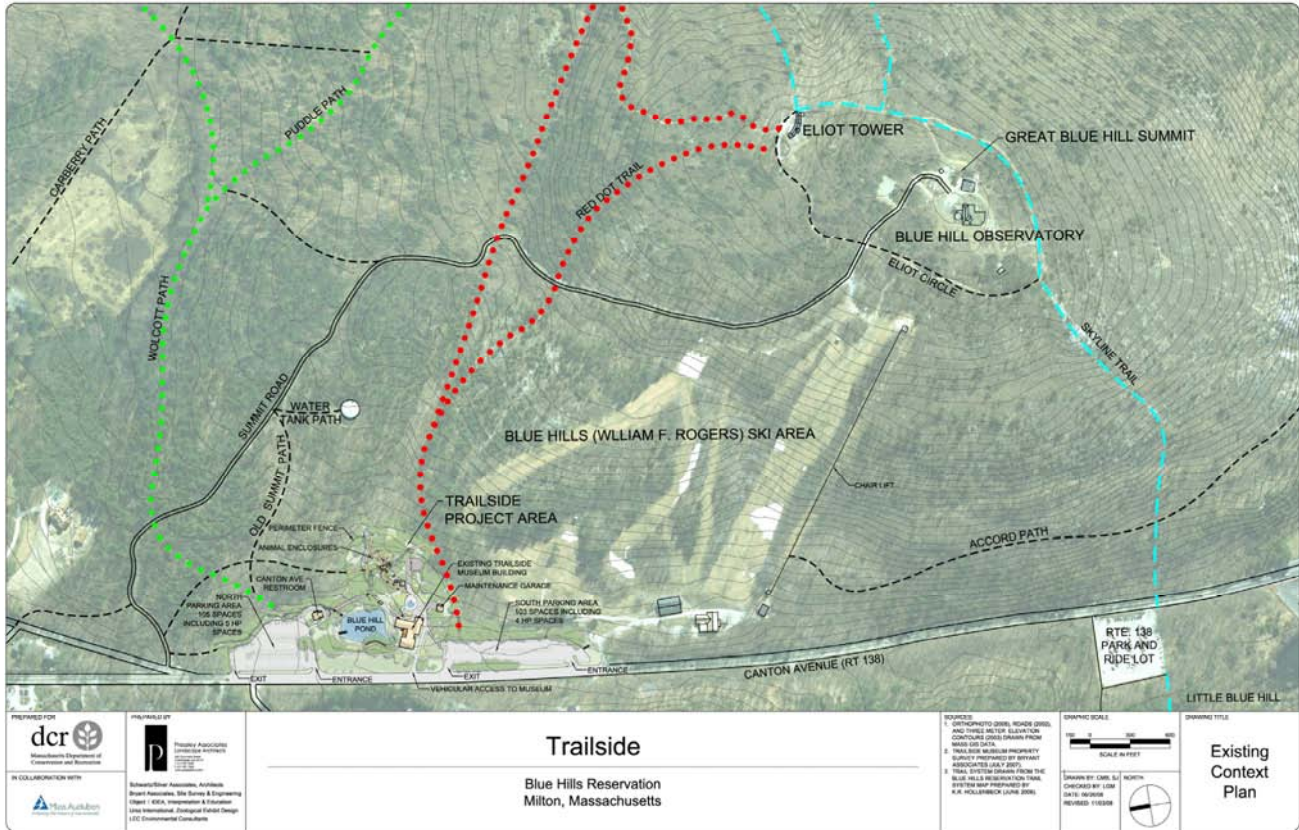
MAS runs a very popular children's summer camp at Chickatawbut Hill also in the Blue Hills Reservation, with four levels of experiences depending on age (Chickadees, Naturalists, Explorers and Adventurers). While planning for the program and facilities at Chickatawbut is not in the scope of this Master Plan, adequate office space for MAS staff and animal care facilities are needed at Trailside to support the summer camp operation. MAS staff also occasionally run programs elsewhere in the Reservation, such as maple sugaring demonstrations at Brookwood Farm, or nature walks in other locations.

Given Trailside's location at the base of the most popular trailhead in the Reservation, DCR rangers also conduct or start interpretive programs at Trailside, so that there is real need for additional facilities to support the educational program needs of both organizations.

The existing 5-year permit agreement between the Department of Conservation and Recreation and the Massachusetts Audubon Society forms the framework for the joint management, operation and maintenance of Trailside. The Commonwealth has provided an annual subsidy of approximately \$425,000 appropriated by the Legislature for Trailside, but the MAS current cost of operations is approximately \$600,000. In FY09, the state subsidy was cut to \$125,000. Both MAS and DCR Blue Hills District contribute services toward the maintenance of the site and buildings, but current operational and capital funds are not sufficient to support the facility's maintenance, management, staffing and programmatic needs.



Trail Map for the Blue Hills Reservation; Trailside is shown with a red asterisk at the west side of the Reservation (DCR).



Context Plan showing Trailside project area in relation to adjacent facilities in the Blue Hills Reservation (Pressley Associates; aerial photo courtesy DCR).

Goals and Objectives

After a careful inventory and evaluation of existing conditions, including buildings, site, and exhibits, the project team worked to reinforce the mission of Trailside, and to consider appropriate alternatives for its future. Key principles for future facilities include:

1. Trailside will continue as a non-profit nature education center that introduces residents and visitors to the natural history of the Blue Hills.
2. Trailside will continue to operate as a partnership between DCR and MAS. Future management agreements and funding must be structured to reinforce this collaboration.
3. Live animals are, and will continue to be, an integral part of the Trailside experience as both indoor and outdoor exhibits, and animals used for onsite and off-site programs.
4. The current, realistic goal for Trailside staffing is 12 [MAS] positions, which is a very small increase from the existing positions. Additional DCR staff may be recommended to support the collaboration.
5. Environmental stewardship and awareness will continue to be a focus of the new Trailside – expressed in the exhibits, programs and facilities.
6. The new Trailside should both visually communicate and function as a “gateway” to the Blue Hills Reservation. Other facilities that use the site should not diminish the operation, function, and character of Trailside.
7. While this Master Plan is focused on the Trailside facility, parking improvements to facilitate park operation and safe access for hikers and skiers are also considered.
8. Every effort should be made to make the primary visitor experience (arrival, entrance, public programs, and indoor/outdoor exhibit areas) safe, interesting, informative, engaging and universally accessible.

9. Recommendations for parking and vehicular drop off should meet current safety standards, and strive to maintain current capacity to the greatest extent possible.
10. Major re-grading of the hillside or relocating the pond has not been considered.
11. Strategies for new buildings and site amenities are designed with consideration for natural and cultural resource protection.



Westerly view of the pond showing the existing boardwalk (Pressley Associates, 2007).

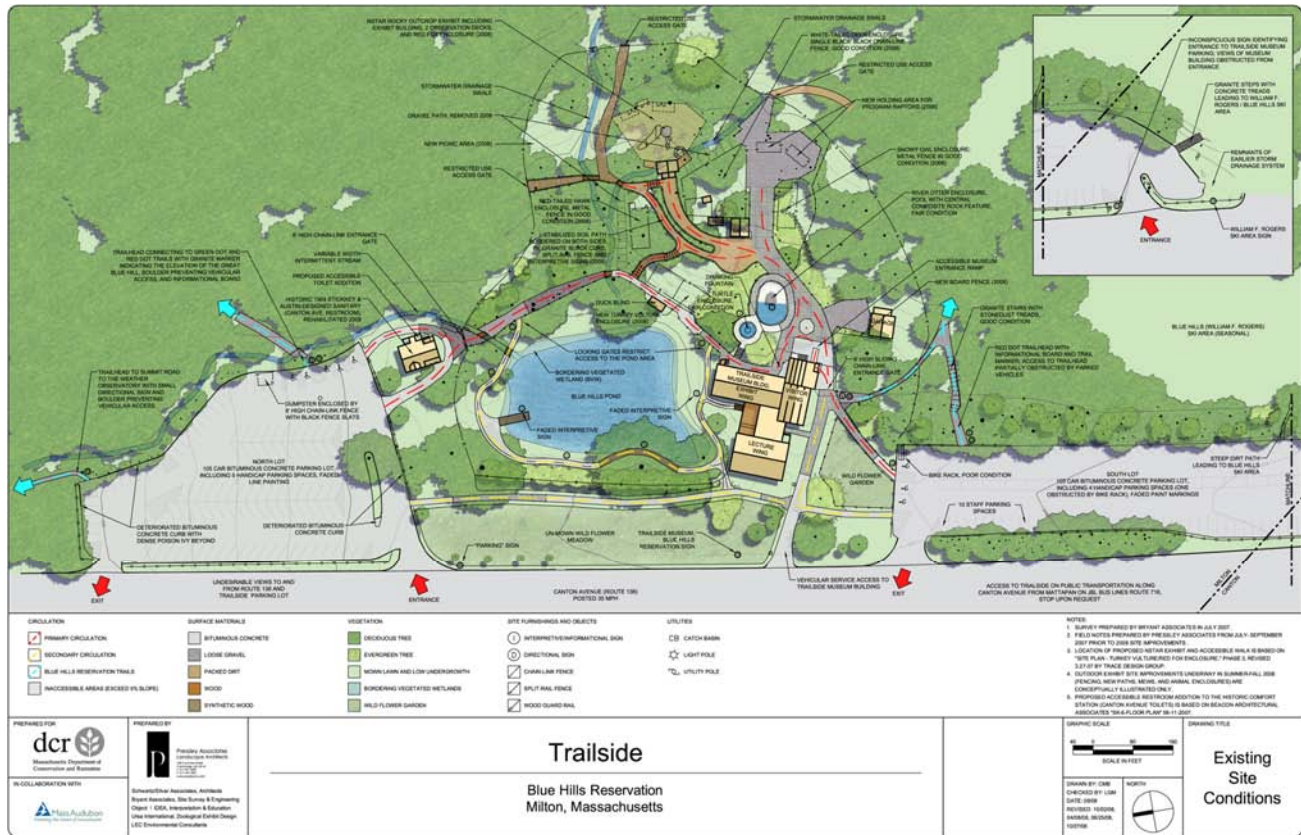
Issues

The condition of the buildings, site features, and both exterior and interior exhibits varies considerably, but the overall impression of the Trailside infrastructure is that it is outdated and deteriorated. DCR has rectified some significant site issues with improvements to the outdoor exhibit area underway in 2008 and the rehabilitation of the Canton Ave. Restroom building. However, successive renovations and additions to the existing Museum building resulted in a broad range of quality in basic construction and systems. Staff areas are fragmented and public spaces are linked by awkward stairs and ramps. While the Lecture Wing (barn), constructed c.1975, is in relatively good condition the 1956 Exhibit Wing is in the poorest condition, with outdated exhibits, which except for a few temporary displays, have not changed in thirty years, except for exhibit improvements installed in 1988 by WB Incorporated. The former

1898 Superintendent's House (now Trailside Visitor Wing) is in fair to good condition, with some serious issues related to accessibility and the dismal conditions of the animal quarantine area on the lower cellar level. Overall, the entire building and its pedestrian approach have areas with substantial deterioration that require urgent attention and do not meet current standards for universal access and museum/nature center education facilities. Finally, the entrance to the existing Museum building faces the hillside, so that it is not visible from Canton Avenue or the south parking lot and, as a result, site orientation is confusing at best.

Similar conditions exist on the site. The north and south parking lots are laid out with a sea of pavement and sub-standard parking spaces. Much of the visitor pedestrian circulation, including the main path to the entrance of the building, does not meet current accessibility standards, although improvements underway in 2008 will create an accessible route within the outdoor exhibit area. The eight foot (8') high perimeter fence, required by the USDA for the animal enclosure area, presents an unwelcoming appearance to visitors. The pond boardwalk is open solely for interpretive walks under the supervision of Trailside staff because of the need to protect the pond edge and wetland vegetation from unsupervised access, and to discourage inappropriate uses, such as picnicking or fishing. The Red Dot Trailhead, the most popular trail in the Blue Hills Reservation, is located off the south parking lot, and its lower section follows the alignment of a former drainage way so that stormwater flows down the trail.

New fencing, setbacks and vestibules added to the fenced animal enclosures in 2008 have greatly improved their overall condition from that observed during field survey in summer 2007. Some of these exhibits have reached the appropriate enclosure size and have much improved keeper access, but all are still below the minimal standards for zoological exhibits in terms of habitat amenities, holding, interpretive materials. Still, despite the condition of the existing Museum building and site features, MAS naturalists provide a broad spectrum of interesting, exciting, and very popular programs at Trailside, which present a suitable introduction and incentive to visit the "real museum" – the Blue Hills Reservation.



Existing Site Conditions Plan showing current facilities at Trailside (Pressley Associates).

Alternatives Considered

The consultant team developed three design alternatives – first as a conceptual approach to siting the nature education center building, and second, more fully developed site and building plans, which were presented to DCR and MAS on April 10, 2008. These three alternatives (including two variations on Alternative #3) strive to meet all of the objectives outlined by DCR and MAS related to the function and management of Trailside, including the building, site and exhibit areas. They all are viable alternatives, and when evaluated at a preliminary level do not appear to be dramatically different in cost. As directed by DCR, based on a discussion of conceptual alternatives, the consultant team considered an extensive renovation of the existing building (Alternative #1), a new education center in the current location of the existing museum building (Alternative #2), and a new building accessible from the north parking lot on the east (Great Blue Hill) side of the pond (Alternative #3).

Recommended Plan

Based on an evaluation of the alternatives, the project team selected Alternative #3 as the preferred alternative – a new nature education center located east of the pond with primary access from the north parking lot, which neatly separates Trailside's primary vehicular access from the south lot, which is used by the Blue Hills Ski Area during winter. In a slightly improved form, this preliminary plan was discussed with the Trailside Advisory Committee on May 7, 2008, who provided comments and suggestions for improving the plan. These comments, along with additional input from DCR and MAS were reflected in the final Recommended Plan described below.

The recommended design for the new Trailside integrates site circulation and topography, provides an efficient and functional distribution of the building program, and incorporates a sustainability plan appropriate for a nature center. The selected site slopes down from east to west, so that the new building will have two stories at the west (entry) side facing the pond, and one story at the uphill side. Visitors will use new vertical

circulation inside and outside the building to make the transition to the outdoor exhibits and to the hiking trails, respectively.

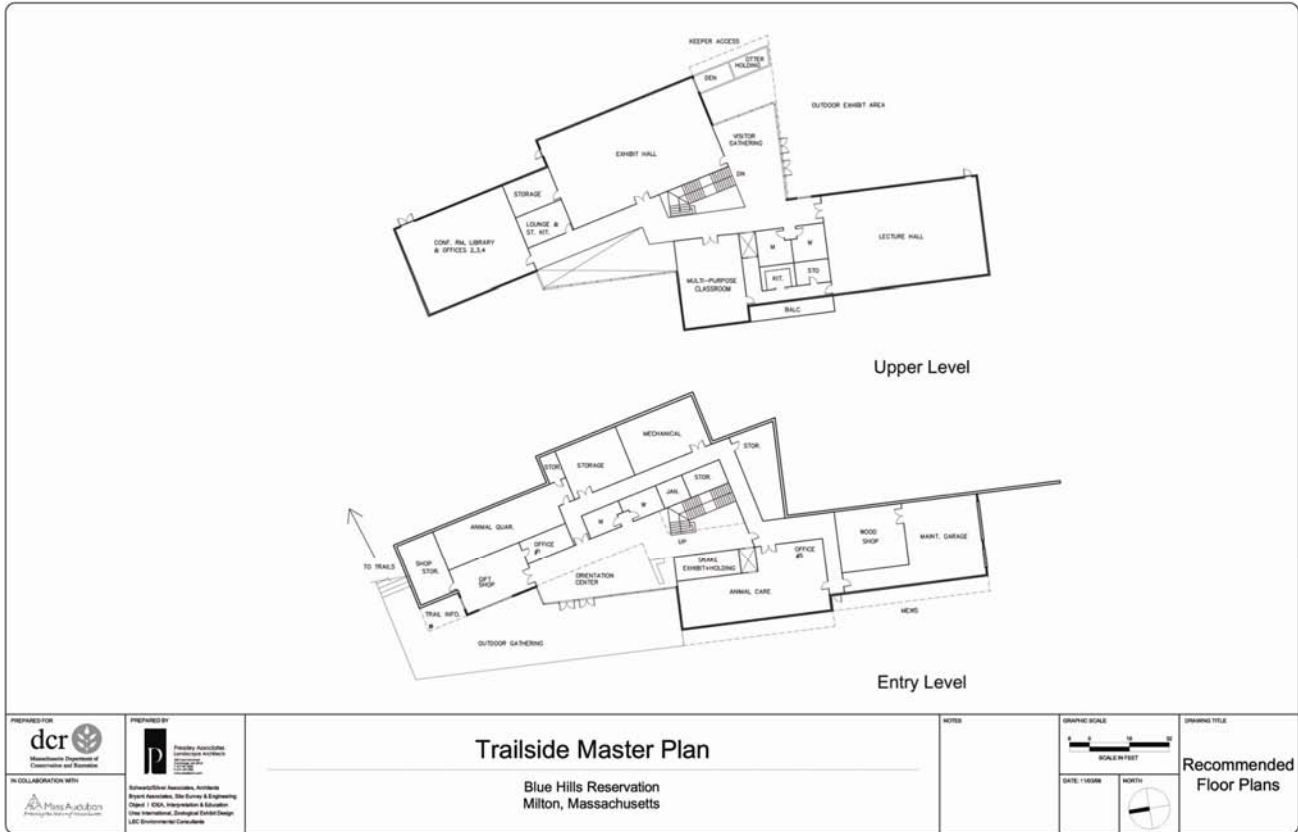
The building's lower (entry) level includes the "free" public areas, such as the Orientation Center (lobby) with introductory exhibits and the Gift Shop, as well as staff-only areas such as Animal Care and the Wood Shop, which are served by a staff entrance. At the upper level are the "paid" public areas such as the Lecture Hall and Exhibit Hall, and also staff administrative offices. The interior stair, which transitions between the "free" information/orientation area and the "paid" exhibit area provides a conceptual representation of Great Blue Hill, with opportunities for interpretive exhibits incorporated into the stair. One live animal enclosure – for snakes – is visible from the stair and orientation area. Building materials can include local or regional wood and stone, and the majority of program spaces will have windows, allowing natural ventilation, daylighting and views to the site. This is intended to be a LEED-certified building with a green roof to reinforce the ecological sustainability message of Trailside.

The site plan emphasizes improved vehicular and pedestrian circulation for visitors, trail users and shared winter use by the Blue Hills Ski Area. The north parking lot will become the primary parking and vehicular drop off for Trailside, with the south lot usable for hikers and skiers. This establishes a new and separate identity for Trailside. However, the two parking lots can be flexibly used for recreational users or the Trailside facility as pedestrian paths connect both parking lots and the building entrance around the pond, which is now free and open to all with an elevated board walk.

The outdoor animal exhibits are accessed through the building, and feature amphibians, birds and mammals native to the Blue Hills, most of which are currently exhibited at Trailside (River Otter, White-tailed Deer, Eastern Wild Turkey, Red Fox, Striped Skunk, Virginia Opossum, Fisher, Turtles, Red-tailed Hawk, Snowy Owl, Wild Turkey, Turkey Vulture, Barn Owl) with a designated expansion area for future exhibit development (such as Black Bear, Coyote and Bobcat).



Conceptual perspective rendering showing the proposed Trailside nature education center from the path leading from the north parking lot, with Great Blue Hill in the background. This conceptual drawing should be developed in greater detail in subsequent design phases (Schwartz/Silver Architects).



Above: Conceptual floor plans for the new Trailside building (Schwartz/Silver Architects); below: Recommended Site Plan (Pressley Associates).



The animal enclosures are roughly grouped following a series of native habitats (wetlands, upland forest, fields, and rocky outcrop), with accompanying plant community exhibits incorporated into the enclosure area. Both the interior and exterior exhibits emphasize the geology, plant communities, cultural history, habitats and animal species native to the Blue Hills, with opportunities for the presentation of “hot topics” current to the Reservation and Trailside’s ongoing research.

Outdoor program spaces are provided in two areas: an amphitheater transitions up the slope at the north end of the new building with easy access to trails, and a second program/picnic area is located in the animal exhibit area. Trails can be easily accessed both from the south parking (Red Dot Trailhead) as well as the north parking lot and outdoor gathering area. The Red Dot trailhead has been relocated slightly, but remains in the center of the south parking lot.

Estimated Cost for the New Trailside

Based on the square footage calculations for the conceptual design presented in this Master Plan, the projected 2008 cost for a new Trailside, including nature education center building, site improvements, zoological exhibits, and indoor exhibits is **\$17.3 million**.



1904 Stickney & Austin-designed “Sanitary” also known as the Canton Ave. Restroom. This is the only designated historic resource at Trailside (Schwartz/Silver Architects, 2007).

Other Ideas Considered

Several additional ideas developed during the master planning phase were not included in the Recommended Plan, but might be considered or incorporated at a later date as the final design develops and depending on operational funding for both DCR and MAS. They include a flight demonstration area, walk-through aviary, butterfly exhibit, “night in the Reservation” exhibit, ant farm, Café, and indoor fireplace and/or outdoor fire ring.

The other major idea discussed by DCR, MAS and the consultant team centered around the desire to rename Trailside, removing the word “Museum” and replacing it with a more descriptive name (e.g. Nature Center) that more aptly describes the function of Trailside, including the building, interior, and exterior exhibits.

Recommendations for Further Study

The following additional studies and activities were identified to realize the goals of this Master Plan:

1. Explore the potential to **rename Trailside**, eliminating “Museum” from the name, and replacing it with something more suited to the mission of Trailside (such as Nature Center.)
2. Complete additional **site survey** to document site improvements implemented 2007-08 and the expanded exterior exhibit program. The additional survey should be completed in a format that can be manipulated in 3D.
3. Building on the Trailside Master Plan, undertake a **coordinated planning initiative** for the three permitted uses at Great Blue Hill (Ski Area and Observatory) to ensure that future plans are coordinated.
4. Prepare **Schematic Design and Design Development** for Trailside, including the new building, site improvements, zoological exhibits, and interior educational exhibits.
5. Complete a **Strategic Funding Plan** focused both on capital improvement funds needed to achieve this Master Plan, but also to address long-term operational stability and funding, including annual appropriations to DCR, MAS contributions, grants and philanthropy.
6. Prepare a **birds-eye aerial perspective** of the proposed site improvements, including the new building and outdoor exhibits, which could be used as a component of a capital

campaign or for visitor education, to help communicate the future vision for Trailside.

7. Commission a **Traffic Study** for Trailside. Given the fact that Canton Avenue is a state route, any changes, such as the proposed dedicated left turn lane, require substantial input, review and implementation by Massachusetts Highway Department. A traffic study, with counts during peak traffic and public use period, is needed to determine if a dedicated left-turn lane is really feasible.
8. Conduct a **historic evaluation of Superintendent's House** and consultation with MHC prior to demolition or relocation.
9. Explore the requirements, benefits, and drawbacks of **AZA accreditation**, even though Trailside is not a zoo, in order to better serve the live animals housed at Trailside and provide enhanced interpretation.
10. Re-evaluate MAS policy regarding **captive breeding** prior to initiating design for future zoological exhibits.



Aerial view showing the west slope and summit of Great Blue Hill with Trailside in the lower left corner along Canton Avenue (DCR).