



Figure 6.1: Beaver Brook North Reservation with potential new wetland area in the former debris site, 2006 (Pressley Associates).

Chapter 6

Operations Plan

Introduction

The purpose of the Operations Plan is to identify the resources needed to adequately manage and maintain the expanded Beaver Brook Reservation. As stated in Chapters 2 and 4, DCR does not currently have any staff specifically allocated to the expanded Beaver Brook Reservation, and the property is managed by staff assigned to the Alewife and Mystic Reservations. This is further complicated by the fact that DCR resources and staffing capabilities and operational funding varies from year to year and from season to season, and demands on DCR resources and staffing also fluctuate from year to year (but demands generally increase as a whole.) In addition, the process of transferring management control of the Beaver Brook North Reservation has been complicated by another state agency's (DCAM) authority over construction of the new parkway, demolition of former hospital buildings, remediation of the former debris sites, and the transfer of the central portion of the property for private residential development.

The expanded Beaver Brook Reservation requires a comprehensive management and maintenance program, which is integral to both public enjoyment of the reservation as well protection and perpetuation of the property's significant natural and cultural resources. As the expanded reservation is under the single jurisdiction of DCR, the Beaver Brook Reservation and Beaver Brook North Reservation need to be managed as a single entity to share the vision and goals adopted by DCR. However, despite sharing some maintenance requirements, the properties are significantly different in character. Beaver Brook North Reservation has the potential to develop into a self-sustaining natural system with limited disturbance. One of its most desirable characteristics is the fact that it has not been intensely managed in recent history so that the natural system and carriage roads and trails have a rural character in contrast to other urban parks. The Beaver Brook Reservation is a more actively used area, requiring more frequent intervention and maintenance, but it still has natural woodlands and trails that feel somewhat remote, particularly in the northern parcel.

Conventional urban park maintenance strategies may not be well-suited to the complex management requirements of the expanded Beaver Brook Reservation. Rather, this property calls for a comprehensive program with strategies directed to alleviating the inadequacies in current management and operations funding to ensure the long-term ecological health and integrity of the reservation and provide a meaningful recreational amenity. While park operations must address specific issues such as user safety, supervision, administration, programming, stewardship enhancements, and funding opportunities, the maintenance strategy for this Reservation should promote environmentally and culturally sensitive methods, particularly for Beaver Brook North Reservation.

As part of the Reuse Plan and its associated amendments, DCAM was charged with constructing the Metropolitan Parkway, demolition of structures in the reservation portion of Beaver Brook North Reservation, and clean up of debris areas. Once this work was completed, these specific sites were turned over to the DCR for ongoing maintenance, management and operation. The Second Amendment to the Reuse Plan stipulates that care and control of the Metropolitan Parkway and Emergency Access Way will be the responsibility of the DCR including "without limitation plowing, patching, grass cutting, weed control, drainage, as well as painting, repairing, repaving, replacement, and all other general parkway maintenance repair and replacement. In addition, DCR may negotiate agreements with any or all municipalities for the provision of these services."¹ This increased responsibility has had a real impact on current operations.

The City of Waltham is responsible for golf course development with remediation of site alterations within the specific land area identified in the Reuse Plan, on which DCR also holds a conservation easement. If the golf course development is not carried out, the City can develop the site for "conservation, playground, recreational, and/or park uses."² Waltham is also mandated to construct the parking area along the Metropolitan Parkway adjacent to the former MSH Administration Building (which the City also owns). The conservation easement specifically states that DCR is not responsible for maintenance of the Waltham land. However, the Reuse Plan allows the Mayor and the City Council to transfer the proposed golf course property to DCR, to be incorporated into the expanded Beaver Brook Reservation.

AvalonBay Communities, Inc. acquired the core campus of the former Metropolitan State Hospital in 2006, and has renovated the site within the town of Lexington as a residential development.

DCR Management Structure

The Department of Conservation and Recreation manages park, reservation, forest, and recreation facilities under the Division of State Parks and Recreation and the Division of Urban Parks and Recreation. Beaver Brook Reservation is located in the Fells District of the Urban Parks North Region. Assignment of staff and allocation of resources (such as funding, materials and staff positions) is based on regional management priorities. Given the fact that current staffing levels for DCR operations are less than sufficient to support all of the facilities in this region, priorities for staffing are directed to properties based on level of use, intensive recreational facilities, and public safety. As a result, Beaver Brook does not have any maintenance or operations staff assigned exclusively to this reservation. Although the spray pool has seasonal lifeguards borrowed from Sandy Beach, these individuals are assigned to the pool and play area and do not provide services to the reservation as a whole.



Figure 6.2: Spray pool in Beaver Brook Reservation, 2005 (Pressley Associates).

Proposed Management Levels

In order to address this deficit, the RMP identifies a multi-tiered approach to park operations, with three levels of proposed staffing:

- **Level 1:** Current staffing level that provide limited, basic management responsibilities for the entire expanded Beaver Brook Reservation;
- **Level 2:** Minimal essential staff needed immediately to maintain both the Beaver Brook Reservation in its current condition, and meet the immediate needs of Beaver Brook North Reservation and the Metropolitan Parkway. Note

that this is not status quo and in fact represents an increase from current staffing levels;

- **Level 3:** Optimum staffing plan that will make possible both more intensive use, enhanced visitor experience, and opportunities for increased resource stewardship.

Level 1

Level 1 (current staffing) management provides limited, basic management responsibilities for the entire expanded Beaver Brook Reservation. These responsibilities include, for the original Beaver Brook Reservation: road and parking lot maintenance including snow plowing; trash collection; seasonal lawn mowing; seasonal spray pool staffing and maintenance; and seasonal staff attendance at special permit picnic activities. For Beaver Brook North, these responsibilities include: new parkway maintenance including street sweeping, snow plowing, catch basin maintenance; maintenance of the adjacent new bike path; maintenance of MetFern Cemetery, and maintenance of the proposed DCR parking area when it is constructed.



Figure 6.3: Metropolitan Parkway and adjacent bike path in the Beaver Brook North Reservation, 2006 (Pressley Associates).

Level 2

Level 2 management provides maintenance for the reservation in its current condition, with no significant change to the visitor experience. Level 1 (current) staffing levels are not sufficient to achieve the Level 2 goal, largely because of the addition of 254 acres of open space beyond the original 59-acre Beaver Brook Reservation and previous reductions in staffing. Level 2 staffing would provide services to support passive trail use at both properties including walking, birding and dog-walking; active recreational use of the fields, tennis courts, and spray pool in the Beaver Brook Reservation and implementation of high priority and some medium priority recommendations of the

RMP. However, Level 2 does not provide for any programmed interpretive services. This includes two full time, year round positions and three seasonal positions. This would also help alleviate some of the region-wide operational burden resulting from shared positions and lack of staff positions assigned exclusively to Beaver Brook. DCR should also negotiate an agreement for snow removal along the new parkway with one of the three municipalities that the parkway will cross in order to alleviate the need for additional district staff during snow events.

Proposed Level 2 Staffing – New Positions

- 1 long-term Forest and Park Supervisor II
- 1 short-term, seasonal Ranger
- 1 long-term, year round Laborer
- 2 long-term, seasonal Lifeguards for the spray pool - June 1 to September 1 or Memorial Day to Labor Day (14-16 weeks)

Level 3

Level 3 staffing achieves the optimum staffing level, which includes supervisory positions, maintenance staff, and visitor services. Under level 3 management, DCR staff will work to further improve the condition of the reservation and provide regular public programs. This could greatly enhance the visitor experience and enhance long-term planning related to needed capital improvements. Annual and routine maintenance activities that enhance resource stewardship and park use include trail and pathway repairs, invasive species management, selective planting, and park interpretive programming. This level of management provides for adequate staffing to meet the routine needs of the park, with the added benefit of public programs. This would be a huge improvement for the reservation and provide a great service to the community. Level 3 should be the ultimate funding and staffing goal for the DCR.

Proposed Level 3 Staffing – New Positions

- 1 long term, year round Forest and Parks Supervisor III
- 1 long term, year round Forest and Parks Supervisor I
- 3 long term, seasonal Rangers I (32 weeks)
- 2 long-term, year round Laborers
- 2 long-term, seasonal Lifeguards for the spray pool



Figure 6.4: Play field in the Waverly Oaks parcel of Beaver Brook Reservation, 2005 (Pressley Associates).

Equipment Needs

The DCR Division of Urban Parks and Recreation has identified the following equipment needs for the expanded Beaver Brook Reservation:

- (1) 1-ton dump 4x4
- 9 ft. snow plow
- Slip on sander
- Trackless sidewalk machine with snow attachments and lawnmower attachment
- Snow blower
- Small lawnmowers
- Weedwackers
- Pole saw
- Chainsaws
- Set of chainsaw related material (gas tanks, sharpening tools, helmet, chaps, etc.)
- Backpack blower
- Chipper
- Misc. hand tools (rakes, brooms, shovels, pick sticks, etc.)
- Related material for chipping (gloves, eye protection, hearing protection, hard hats, etc.)

DCR Urban Parks Trust Fund

Currently, the DCR Urban Parks Trust Fund contains \$600,000 principal specifically designated for the expanded Beaver Brook Reservation, which was paid by the City of Waltham as part of their 54-acre acquisition for a proposed new municipal golf course on land formerly part of Met State Hospital. This fund

and the interest it generates can be used for staffing and equipment, provided at least 25% of the principal remains intact to generate interest in the future.

Maintenance Areas and Standards

Establishing maintenance areas for both the Beaver Brook Reservation and Beaver Brook North Reservation will greatly facilitate park operations. Maintenance areas are geographically defined areas with a specific landscape cover that require a consistent level and intensity of maintenance work. For example, maintenance activities for the spray pool and play area in the Beaver Brook Reservation are much more intensive and different in character than those required to sustain the natural wetlands in Beaver Brook North Reservation. In addition, there are some areas of Beaver Brook North Reservation that will require a higher level of maintenance during the next few years due to the construction activity, but are expected to stabilize. These include newly planted street trees along the parkway and disturbed areas to be re-seeded or re-vegetated. Once these zones are established, specific maintenance tasks can be defined.



Figure 6.5: Paved path in the Historic Beaver Brook Reservation, 2006 (Pressley Associates).

Recommended Maintenance Areas

Historic Beaver Brook Reservation

- Area 1** Intensive recreation areas – paved (play area, spray pool, picnic shelter, restroom, tennis courts, and parking areas)
- Area 2** Trees over grass – areas in both the north and south parcels
- Area 3** Mown grass and turf field

- Area 4 Historic dams, mill foundations, Duck Pond, and Mill Pond
- Area 5 Wetland areas
- Area 6 Woodlands
- Area 7 Trails and pedestrian paths

Beaver Brook North Reservation

- Area 1 Metropolitan Parkway including the north and south sections, bikeway, and the emergency access connector.
- Area 2 Disturbed areas to be re-vegetated – this includes dump sites construction zones along the parkway, and areas where buildings have been demolished.
- Area 3 MetFern Cemetery (see below)
- Area 4 Shared-use trail on historic carriage road
- Area 5 Rustic [single track] shared-use trails and pedestrian paths
- Area 6 Wetlands, vernal pools, and natural communities (see below).



Figure 6.6: Rustic trail in the Beaver Brook North Reservation, 2006 (Pressley Associates).

MetFern Cemetery

The existing cemetery is a highly sensitive resource with specialized maintenance needs. The draft Preservation and Maintenance Plan provides the framework for ongoing care of this cemetery. If DCR is able to establish maintenance positions assigned to the expanded Beaver Brook Reservation, specific training in cultural resource management and cemetery maintenance may be beneficial. Annual conferences and workshops conducted by organizations such as Mount Auburn Cemetery, the National Park Service, and the DCR provide guidance related to maintenance and management of cemeteries and burying grounds. The DCR Office of Cultural Resources and the DCR Archaeologist provide ongoing technical support to the operations staff.



Figure 6.7: MetFern Cemetery, 2005 (Pressley Associates).

Wetlands, Vernal Pools and Natural Communities

The primary maintenance and management activities for these areas should be monitoring, habitat protection, and invasive species management rather than traditional maintenance practices. The Massachusetts Wetlands Protection Act protects 100-foot buffer zones to all wetlands, and more specifically, these regulations protect vernal pool habitat of 100 feet beyond the vernal pool boundary. These buffer zones and habitat areas should be left in their natural conditions with minimal disturbance limited to existing trail maintenance. Depending on the long-term staffing plan for the reservation, additional staff training may be desirable to aid in identifying threats to these resources and any other specific management requirements. These might include seasonal trail closures that may be necessary to protect amphibian and reptile migration during the spring months.



Figure 6.8: Vernal pool in the Beaver Brook North Reservation, 2006 (Pressley Associates).

three communities could be strong candidates for collaborative environmental programming.

Endnotes

¹ Second Amendment, "Metropolitan State Hospital Reuse Plan," p. 6.

² As stated in the MSH Reuse Plan, amendments and the conservation easement.

Collaborative Management Opportunities

Given limited maintenance staff and funding, partnerships and collaborations that achieve mutual goals for the reservation and the adjacent properties will be mutually advantageous:

1. Pursue a cooperative maintenance strategy for the Metropolitan Parkway with AvalonBay Communities, Inc., City of Waltham and the Town of Lexington. This approach would achieve mutual benefit for both DCR, AvalonBay, and the municipalities, ensuring that adequate maintenance capacity exists to care for the parkway and its adjacent trees, bikeway and drainage system now that construction is complete. Ideally, a maintenance strategy for the parkway should be in place as soon as possible so that DCR is prepared for the winter season.
2. Pursue partnerships related to trail management and maintenance. DCR has existing relationships in place with trail users such as the New England Mountain Bike Association (NEMBA) as well as the Western Greenway partners such as Mass Audubon, Town of Belmont, and others, which could be mutually beneficial to both organizations at Beaver Brook.
3. Pursue partnerships and collaborative opportunities related to public education and environmental stewardship. Both Beaver Brook North Reservation and the Beaver Brook Reservation provide tremendous opportunities for school programs, higher education special projects, and environmental education. Several nearby organizations and institutions, along with the school departments of the