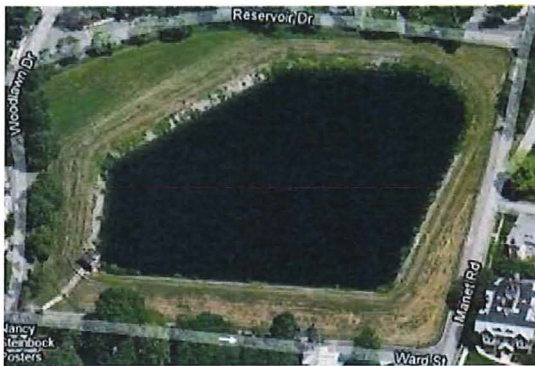


1. JAPG Report

FINAL REPORT

Waban Hill Reservoir Advisory Group (WHRAG)

June 6, 2013



The Waban Hill Reservoir is like no other site in our city. Perched near the peak of the highest hill in Newton, visitors are treated to breathtaking panoramic views including spectacular sunrises and sunsets. The 5-acre Reservoir site provides a unique opportunity for enjoyment for people of all ages and from all neighborhoods, away from the bustle of the streets below. The WHRAG strongly supports the acquisition by the City of Newton of the Waban Hill Reservoir site, a site of unique topographic and historical significance, to expand and enhance the public open space resources for the citizens of Newton. The Reservoir is easily accessible, being located at the top of Heartbreak Hill, directly adjacent to Commonwealth Avenue.

The Waban Hill Reservoir has long been a potential target for acquisition by the City. The City of Newton Recreation and Open Space Plan Update 2013- 2019 (“Newton Open Space Plan”), in Section 7, page 10 of 16, explicitly states the goal: “Explore opportunities for acquisition of Manet Rd. MWRA reservoir for possible use to meet active and/ or passive recreation needs.” (See Appendix 3 for detailed discussion of how the Plan for site use meets Newton’s Recreation and Open Space Plan.) Key arguments for acquiring the reservoir site are the following:

- The site’s elevation and topographic prominence create a unique Newton landscape that affords to the public broad vistas not available elsewhere in the city.
- The site location along Commonwealth Avenue at the top of Heartbreak Hill, a popular walking, running, biking route, provides an opportunity to create a citywide destination.
- The site is located in a portion of Newton which is relatively underserved in terms of accessible open space resources.

The MWRA is now in the process of decommissioning the reservoir, which presents an unexpected opportunity for the City to purchase a valuable property at a vastly reduced price, provided the site is used as open space.

The Committee believes that preservation of the Reservoir, as a 2.9 acre body of water, is the single most important aspect of future use of the site. Water is a magnet for all types of people and activities. The popularity of water cannot be understated as evidenced by the number of people attracted to places like the Chestnut Hill Reservoir, Bulloughs Pond, the Charles River and the Brookline Reservoir. Water allows for both activity as well as contemplation, as a place to gather and a place to be alone. The Waban Hill Reservoir site will be attractive to many different populations in Newton who will use it for a variety of purposes. There is no other site in Newton, where one can walk or run along a wide, flat path around a large body of water (see Appendix 1, which shows how the Waban Hill Reservoir is unique among other Open Spaces in Newton). Despite the fact that Waban Hill Reservoir has been fenced off for decades, it nevertheless has drawn many visitors, who walk or run around the periphery, or who stop to appreciate the remarkable vista from one of the highest points of elevation in the City of Newton.

By simply making the site safe for public access, the Waban Hill Reservoir could become immediately usable, without requiring expensive, major modifications. Street level access with on-street parking currently exists at three distinct locations on the site, which provide access to both the berm crest as well as the grassy, lower expanse around the earthen dam. While the Reservoir is the most dominant feature of the site, the opportunity exists for additional features to be added in the future. The site could be further enhanced by the addition of: an imaginative pre-school play area with water features (possibly incorporating the berm slope); a informal mini-amphitheater at the highest point of the site; shaded seating at various points, both on the berm and in the lower area; stretching stations throughout the site; terracing of the exterior of the berms to expand plantings and seating; public art located at various points around the site; an orchard of apple trees managed by Newton Community Farm; and tables at the lower part of the site, as well as at the entrance closest to Commonwealth Avenue.

The WHRP Plan transforms a currently inaccessible parcel of land into a welcoming open space, that addresses a number of goals articulated in the Newton Recreation and Open Space Plan. The Plan is a simple, relatively low cost and low maintenance approach that will benefit the entire City and all of its residents, and will be able to support additional uses and features over time.

Abstract

The Waban Hill Reservoir Advisory Group (WHRAG) was appointed by the City of Newton to provide community advice to the Board of Aldermen concerning the acquisition and use of the Waban Hill Reservoir. The committee consisted of the following persons: Steven Bader, Madelyn Bell, Peter Clote, Sharon Cushing (nonparticipating), Novelle DuPen-Meyerhoff, Cathy Eaton, Muriel Esdale, Jean Fulkerson, Ben Ostrow, Gail Silberstein, Susan Servais, Dan Von Kohorn, co-chaired by Gail Silberstein and Peter Clote. The committee was tasked to formulate a vision about how the Waban Hill Reservoir site could be designed as open space to benefit residents from all parts of Newton, if the City of Newton were to acquire the Waban Hill Reservoir site from the Commonwealth of Massachusetts. In this report, we describe background issues, provide a case for Newton's acquisition of the reservoir site, and furnish a compelling vision of how to construct an open space park that provides a unique contribution to the Newton park system.

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8. JAPG Membership

Manet Road Reservoir - Advisory Group

updated 1/14

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Sent: Wednesday, November 21, 2012 5:41:01 PM

Subject: Manet Road Reservoir [\[Joint Advisory Planning Group\]](#)

Thank you all for joining the discussion last week about the possible future use of the Manet Hill Reservoir. The City staff and Ward 7 aldermen look forward to working with you in assessing the future potential use of this site. If you wish to be considered as a member of an advisory group to study this site, please forward a brief letter of interest explaining why you would like to participate and how you think you can contribute to the discussion. As I mentioned last week, the charge of the group is to consider a range of possible future land uses and within 90 days, to make recommendations to the Board of Aldermen and the Mayor. Whether you are an interested neighbor with a good view of the neighborhood or an individual with expertise in landscape architecture, real estate finance, historic preservation, recreation, architecture, planning, land use or some other related field, your involvement is welcome. 12-14 individuals will be selected to serve, and meetings will be open to the public, so all will have an opportunity to listen to the discussion and stay involved once the group begins its work. Please forward your letter of interest and/or resume to me at chavens@newtonma.gov by December 8th; members will be announced within two weeks. The first kick-off meeting is tentatively planned for the first week of January. Feel free to contact me if you have any questions. I look forward to hearing from you.

Candace

Candace Havens, AICP, MPA
Director of Planning and Development
City of Newton



Setti D. Warren
Mayor

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Candace Havens
Director

MEMORANDUM

DATE: June 6, 2013
TO: Board of Aldermen
Mayor Setti D. Warren
FROM: Candace Havens, Director of Planning and Development
Alexandra Ananth, Chief Planner, Current Planning
Katy Hax Holmes, Senior Planner
SUBJECT: **Potential Purchase of Waban Hill Reservoir**
Cc: Robert R. Rooney, Chief Operating Officer
Maureen Lemieux, Chief Financial Officer
Dave Turocy, Commissioner of Public Works
Members of the Waban Hill Reservoir Advisory Group

EXECUTIVE SUMMARY

The Massachusetts Water Resources Authority (MWRA) is seeking to decommission and sell the Waban Hill Reservoir property located on a parcel bordered by Ward Street, Woodlawn Drive, Reservoir Drive, and Manet Road in Ward 7, Chestnut Hill. To gather community input, the City organized an advisory group comprised of Chestnut Hill and greater Newton residents (WHRAG), to develop their vision for future uses of the property. This group mirrored a JAPG-style format in its proceedings and its meetings were attended by the Ward 7 Aldermen, Planning Department staff, Parks and Recreation Department staff, and the public. In its final report, the WHRAG recommended that the City purchase this parcel as dedicated open space. Potential uses for this site were



envisioned by the WHRAG to be consistent with the City of Newton Open Space Plan, *Comprehensive Plan*, and the funding goals for the Community Preservation Act (CPA), and to enable public use and access to open space that has been off limits to the public for decades. Planning staff agrees that its best use is for open space and recreation, and further suggests consideration of a broad range of potential such uses to serve the needs of the community.

BACKGROUND

Known as the Waban Hill Reservoir Advisory Group (WHRAG), this group is comprised of 14 members, 12 of whom are Ward 7 residents and included two professional planners, local neighbors, representatives from active recreation organizations, and advocates for affordable housing, conservation, and public art. This group met bi-monthly from February to May 2013 and its efforts have culminated in a separate report. Though not an official JAPG, the group was nevertheless assembled using the JAPG format. Two members attended most of the meetings but resigned from the group before the report was completed, and one member did not attend any meetings. Hence, the report lists the names of 11 individuals.

The WHRAG was conscious of the need to create a space that would serve the community at large and actively worked to devise a vision for the site that it believed met the needs of the Newton community, particularly the young and the elderly. Members of the Planning Department who worked on the acquisition of the Hannon property on Crystal Lake recall concerns of this nature arising when the Newton Center house lot was acquired for open space. This site has subsequently become a lovely lakeside park for picnickers, swimmers, and walkers and in a short time has become a year-round destination in Newton. In neither case was the City in the position to choose where these open space opportunities occurred. The Planning Department believes the City should continue to position itself in such a way as to take advantage of unexpected open space opportunities when they arise.

The WHRAG report is not intended to design the new open space, but to recommend a course of action for the reservoir property. The Planning Department supports the consideration of planning mechanisms to allow for universal access, such as connections between the reservoir and buses along Commonwealth Avenue, and parking and transportation improvements to the village that further enliven the area and potentially contribute to the City's tax base over time. Both the WHRAG and the Planning Department hope that appropriate use of what could be a City-owned parcel will encourage continued communication and cooperation amongst property owners and the high number of renters in the neighborhood.

The Planning Department recognizes this as a unique opportunity to create active and passive recreational opportunities to serve the community and recommends the City purchase this property for open space.

I. SIGNIFICANT ISSUES FOR CONSIDERATION

When deciding whether to allocate money toward the purchase of this site, the Board should consider whether:

- purchase of the site would provide universal access to open space that no one has legally been able to enjoy for decades;
- this parcel might act as a catalyst for the enlivenment of the commercial corridor along Commonwealth Avenue;
- the project could add revenues to the City, either in the short- or long-term or, preferably, both;
- the project would assist the City in meeting its goal for creating and providing opportunities to enjoy open space in the City as stated in the *2007 Comprehensive Plan* and the 2013-1019 Open Space Plan; and
- the use of this land will require additional parking to satisfy the anticipated increased demand for parking expected with the creation of new, accessible open space that can be met either on-site or off-site.

II. CHARACTERISTICS OF THE SITE AND NEIGHBORHOOD

A. Neighborhood and Zoning

The Waban Hill Reservoir site is surrounded by a residential neighborhood that is densely developed on relatively small lots. Staff agrees with the WHRAG that usage of the reservoir property should be compatible with its residential context, including but not limited to compatibility in visual scale.

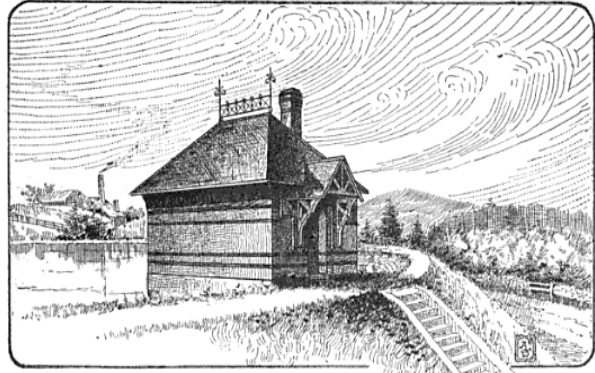
This site is currently zoned Public Use. The surrounding neighborhood is zoned Single Residence 2 and Multiple Residence 1, which allows for single and two-family dwellings, and uses such as a congregate living facility, hospital, cultural center, riding school, stock farm, and private garage. However, these uses do not seem to immediately fit in to this Chestnut Hill neighborhood. In the MR1 zone, subject to a special permit, uses such as boarding houses, non-profit organizations, single-family attached dwellings and ‘cluster developments’ may be allowed, provided the site meets dimensional and parking controls.

The Planning Department believes that the Public Use zone most closely resembles what is suitable for this site, and allows by right much of what was envisioned by the WHRAG, including commons, public gardens, parks, conservation areas, playgrounds, public parking lots, waterworks reservations, public purposes, and accessory uses to those listed above. Allowed uses in the Public Use zone also include railroads, public streets and highways, and public cemeteries, though these latter uses are less likely for this five-acre site. As the property owner, the City could limit the intensity of the uses allowed on the site to only those believed to meet its goals for the area. The Board of Aldermen may also vote to approve temporary licenses for farm stands, markets, fairs and festivals at the site except where other City departments may have jurisdiction.

B. Site

Built in 1877, the Waban Hill Reservoir is a 1,100-foot long earthenware embankment dam. The dam is 22 feet tall at its highest point and has a crest width of approximately

15 feet. The large embankment surrounds approximately three quarters of the total site. The City owned and operated this water repository until it sold it to the Massachusetts Water Board (now the Massachusetts Water Resources Authority) in 1900. At that time, the reservoir served to regulate water pressure during periods of high use and as a backup water supply during times of emergency. The reservoir stores water off-stream, has no watershed area, and does not store water for human consumption. A brick gatehouse currently standing at the south end of the reservoir was built c.1900 and replaced a frame structure at this location that stood until at least 1889. This dam is located in a residential neighborhood and has been rendered inaccessible to pedestrian traffic by a tall protective fence.



Gate at Waban-Hill Reservoir, Chestnut Hill.

Image from King's Handbook of first gate house on Reservoir site

III. REUSE ANALYSIS

A. Land Use

The Division of Capital Asset Management (DCAM) could declare this parcel open space under Article 97, thus reducing its value as non-developable land and cutting the purchase price of the property. As this site is not currently envisioned as an income-producing property, the sale of the City-owned Pump House lot (photo at left), located in Chestnut Hill and currently landlocked by house lots on the west side of Woodlawn Drive (SBL 63005-0002), could generate income toward the reservoir property's long-term maintenance. This lot could be rezoned and sold as a house lot or divided into smaller parcels to be sold to adjacent neighbors. This parcel is approximately 7,750 square feet in size and is zoned Public Use, with an assessed value of \$163,600.



B. Open Space

The WHRAG recommends that 100% of the site be devoted to open space. This requirement may include small pocket parks or pedestrian ways in and around the site and need not be in one contiguous portion of the site. The Planning Department agrees with this recommendation.

Purchase of this parcel as open space meets the primary objective of the Open Space Plan, which addresses the City's "ongoing need to preserve, protect and provide additional open space including pocket parks in the more densely populated neighborhoods of Newton." (Section 1 – Plan Summary, page 1 of 2). The Open Space Plan acknowledges a deficit of available land for passive and active recreation, particularly for the growing populations of the very young and the very old in Newton. Although the Open Space Plan also acknowledges a deficit in active playing fields in the City, the Planning Department believes further study is necessary to assess whether the site is conducive to funding and accommodating athletic fields and the necessary amount of parking and accompanying vehicular traffic that comes with team athletic events. The WHRAG noted this deficit but in its report stated its belief that due to issues related to increased traffic and noise the site was not conducive to use by sports teams.

In the City of Newton's *Comprehensive Plan*, the Open Space element incorporates four goals for its non-developed parcels. Beneath each goal is a listed example in the Plan which would be met on the Waban Hill Reservoir site.

- a. To recognize, preserve and maintain the City's important natural assets and resources
 - *Distinctive landscapes- land with scenic character and land that affords vistas and panoramic views.* The Waban Hill Reservoir has one of the highest scenic vantage points in Newton.

- b. To protect and preserve remaining large open spaces, including golf courses and parcels owned by institutions and private entities
 - The Waban Hill Reservoir, though not a large parcel, is one of the few remaining in the City for possible purchase.

- c. To ensure an adequate amount, variety, and distribution of open space for both public benefit and biodiversity
 - *Distribution– opportunities to enhance and expand active and passive recreation sites in northern parts of the city.* The Waban Hill Reservoir would provide open space in a neighborhood that currently has no public land available for passive or recreational use.

- d. To integrate compatible recreation and conservation uses.
 - *Passive recreation- sensitively manage the increased demand for playing fields with the increased popularity of passive activities (walking, bird-watching, cross-country skiing etc.) and interests (plant identification, scenic effects, etc.)* The Waban Hill Reservoir has been envisioned as a destination for all of the passive activities listed in the Plan.

The site features steep berms topped with a wide, flat rim and historic vestiges of turn-of-the-century water engineering. The reservoir is on one hand a holding tank for rainwater, while also notable as providing one of the highest natural vantage points in Newton. The Advisory Group wrestled with ways in which the site could be adapted to more active use, which included considering the financial commitment necessary to

convert the site to something other than passive use. The Planning Department agrees that the subject parcel is a valuable asset in the City and that it would appeal to visitors both City- and region-wide, particularly during the Boston Marathon.

With the reservoir's location at the top of Heartbreak Hill, this site has attracted marathon audiences for over a hundred years, all of whom technically trespass on MWRA land in order to obtain the best views of the race on Commonwealth Avenue below. The group discussed future ways in which Marathon fans could continue to view the race from the reservoir property, as well as ways in which the reservoir might become part of a national memorial to those injured or lost in the Marathon bombings in Boston on April 15, 2013. The Planning Department supports this idea and encourages citizen's efforts to incorporate the reservoir site into the Boston Marathon zeitgeist on a local, regional, and national level.

Based on the broad requirements of the Massachusetts Community Preservation Act, and the slightly narrower ones in the Newton Community Preservation Committee's current Funding Guidelines, this project may be eligible for CPA funds in three categories. CPA funds could be used to acquire this reservoir as open space or as recreation land, for active or passive recreational use, to protect pond frontage (albeit man-made), or to preserve scenic vistas from the uppermost rim of the dam. Protection of the historic gatehouse on this site could also qualify for funding under the CPC category for Historic Resources, though that would require either adding the dam and gatehouse to the State Register of Historic Places, or having the Newton Historical Commission declare them locally significant.

A representative from the Newton Girls' Soccer organization served on the WHRAG and contributed thoughtful ideas for consideration as potential income-producing and active recreation activities at the site. The Newton Farm Commission also submitted a letter advocating for additional farmland in the City. The Planning Department believes that the possibilities for the City to produce income at this site should continue to be considered over time as additional funding for site improvements becomes available. The Planning Department also believes that not all vacant land in the City is suitable for every type of use and that further discussion and consideration be given to the reservoir site's unique development possibilities.

The Planning Department recommends that the net fiscal benefit to the City of acquiring this parcel, whether it is used for passive recreation in the short-term or long-term, be taken into consideration. Possible sale of the Pump House lot and potential income-generating uses on the site, in whole or in part, should also be studied as part of a fiscal analysis of the site.

To ensure the lowest purchase price for the reservoir property, the Planning Department recommends that the City buy the reservoir property from the MWRA as land which qualifies as open space under Article 97 of the Article of Amendment to the

Constitution of the Commonwealth of Massachusetts, voted into place in 1972. Land classified under this article is to be left in its natural state for the people's right to enjoy natural open space settings.

Contingent upon review by the Law Department, the reservoir property appears to qualify as open space under Article 97. Legal interpretations over time have allowed that playgrounds and active recreation sites have also qualified as Article 97 uses. The Planning Department supports this purchase strategy for the reservoir site, leaving open the possibility for changes in the level of recreational intensity of its usage over time.

C. Affordable Housing

In consultation with the Departments of Law, and Parks and Recreation, the Planning Department reviewed possible development of the site for housing. Newton has a unique developmental history of pocket parks, which have dotted the Newton landscape since the 1840s. Planning staff worked on the concept of creating house lots on the reservoir parcel that surround a central small park. In an attempt to create housing that would be in keeping with the surrounding neighborhood, the Planning Department mirrored the existing lot sizes of the adjacent lots, which were approximately 8000 square feet in size.

Although housing on the site was not ruled out by the Planning Department as a long-term use in principal, the Department is concerned that the time and money necessary to make this argument while devising a purchase strategy for this parcel would raise the purchase price for the lot and potentially jeopardize the sale of the parcel to the City. Any effort to make the site viable for development would involve paying market price for the parcel, having it rezoned by the Board of Aldermen, and putting the project out to bid. Protecting the site as open space would keep the purchase price low, expedite the transfer, and allow for the existing zoning (Public Use) to remain in place. Since this property is currently open space, rezoning it for housing would likely require legislative review and action by the State under the provisions of Article 97 of the Article of Amendment to the Constitution of the Commonwealth of Massachusetts.

The challenge for the City will be to prioritize its needs in tandem with the challenges posed by the reservoir site, and balance them to ensure a financially feasible project. The Planning Department supports submitting an application to the Community Preservation Commission (CPC) to obtain funding to purchase the parcel.

D. Building and Site Design

The WHRAG rated preservation of the site and design as one of its most important issues. Chief among the WHRAG's concerns is that any proposed use of the site respect the density and scale of the surrounding neighborhood and be compatible with its

context. The group also recommended locating most recreation activities at the northwest corner of the site, where the land is at grade and easily accessible.

If the site were to remain a holding pond with walking trails above, as has been initially proposed, the Planning Department agrees with the proposed placement of these activities. The Department also recommends that on-street parking be allowed around the site in such a way as to ensure that the pedestrian experience is not interrupted by vehicular traffic, and local residents are able to enter and exit their driveways unimpeded.

E. Infrastructure

The site is accessed by four surrounding streets and from steps leading up to the gatehouse from the south. The City should conduct baseline traffic counts at intersections in the area that are likely to be affected by increased pedestrian and vehicular access to the site (in particular Ward St./Woodlawn Drive, Woodlawn Drive Rd/Reservoir Rd, Reservoir Rd/Manet Road, and Manet Road/Ward Street). In the event the existing body of water is to be retained on site, the City should conduct a baseline study of the site's water capacity, drainage and soil tests to determine whether there is contamination that must be addressed, as well as the structure's long-term viability as a retention pond. While these studies will incur a cost in the short-term, their long-term benefits will be measurable for the best future development of the site.

Unlike other acquisitions of open space in Newton, understanding the engineering implications of this site are of paramount importance, both for historical reasons and for the long-term viability of the site as a usable, safe destination for active and passive recreation. MWRA has categorized this reservoir as a High Hazard dam due to its service as a retention pond in a densely developed neighborhood. Though maintenance reports for this reservoir identified its deteriorated condition and minimal maintenance invested over the years, the dam in its current condition has not been deemed to be dangerous. If the reservoir is to be preserved in its present condition and converted to passive use, the structural stability of the site should be thoroughly examined by an engineering firm or professional engineering staff prior to any public access to the site.

IV. RECOMMENDATION

As a tightly encircled urban space in a neighborhood that lacks parks and recreation areas for its residents, the Planning Department recognizes the unique opportunity to purchase the parcel. The City's Open Space Plan identifies this parcel as a future acquisition, and the reservoir property is included in the CIP priority list for the Parks and Recreation Department.

The Planning Department recommends that the Board of Aldermen direct the City staff to pursue purchase the decommissioned Waban Hill Reservoir from the MWRA and

devote the site to protected open space consistent with the recommendations of the WHRAG and the Planning Department.

APPRAISAL REPORT

Of

A Reservoir

Located at

**Ward Street, Newton
Middlesex County, Massachusetts**

**Mark S. Reenstierna
Appraiser**

**Effective Date:
August 11, 2014**

**T.H. Reenstierna LLC
Real Estate Appraisers and Consultants
22 Mill Street, Suite 102
Arlington, Massachusetts 02476**

Prepared for:

**Mr. Warren A. Madden
Project Manager
Office of Real Estate Management
Division of Capital Asset Management
One Ashburton Place
Boston, MA 02108**

Full report online from the Waban Hill Reservoir project page on the Newton Community Preservation Committee website.

Only selected pages were included in printed copies distributed to the Community Preservation Committee.

Mr. Warren A. Madden
Division of Capital Asset Management

Waban Hill Reservoir
Newton, MA

SPECIAL ASSUMPTIONS:

Pursuant to Chapter 154 of the Acts of 2013, the Commonwealth may convey to the City of Newton a state-owned parcel containing 5.09 acres, including a reservoir and a gatehouse.

Chapter 154 AN ACT AUTHORIZING THE COMMISSIONER OF CAPITAL ASSET MANAGEMENT AND MAINTENANCE TO CONVEY CERTAIN LAND TO THE CITY OF NEWTON.

Whereas, The deferred operation of this act would tend to defeat its purpose, which is to forthwith provide for the conveyance of certain land from the commonwealth to the city of Newton, therefore it is hereby declared to be an emergency law, necessary for the immediate preservation of the public convenience.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same as follows:

SECTION 1. Notwithstanding any general or special law to the contrary, the commissioner of capital asset management and maintenance may convey a certain parcel of state owned land in the city of Newton to the city of Newton; provided, however, that any deed conveying the parcel shall contain the restriction required pursuant to section 2. The parcel, known as the Waban Hill reservoir, and also known as the Ward Street reservoir, is located on the east side of Ward Street in the city of Newton and the exact boundaries of the parcel shall be established prior to such conveyance by a survey commissioned by the commissioner. The parcel is further described in a deed from the city of Newton to the Metropolitan Water Board dated October 20, 1900 and recorded in the Middlesex south district registry of deeds in book 2853, page 42. The consideration for the conveyance shall be the full and fair market value of

Mr. Warren A. Madden
Division of Capital Asset Management

Waban Hill Reservoir
Newton, MA

the parcel as determined by the commissioner pursuant to an independent professional appraisal.

SECTION 2. The parcel described in section 1 shall be conveyed subject to a conservation restriction with the benefit of section 32 of chapter 184 of the General Laws limiting the use of the parcel to open space or active or passive recreation purposes. If at any time the property ceases to be used for the purposes described in this section, the commissioner of capital asset management and maintenance shall give written notice to the city of the unauthorized use. The city shall, upon receipt of the notice, have 30 days to respond and a reasonable time to establish an authorized use of the parcel. If an authorized use of the parcel is not thereafter established, the title to the parcel, upon the recording of a notice thereof by the commissioner in the appropriate registry of deeds, shall revert to the commonwealth and any further disposition of the property shall be subject to Article XCVII of the amendments to the constitution and chapter 7C of the General Laws.

SECTION 3. The inspector general shall review and approve the appraisal conducted pursuant to section 1. The review shall include an examination of the methodology utilized for the appraisal. Within 30 days of receiving the appraisal, the inspector general shall prepare a report of such review and file the report with the commissioner of capital asset management and maintenance. Within 15 days of receiving the inspector general's report and not later than 15 days before the execution of any agreement or other document relating to the conveyance, the commissioner shall submit it to the house and senate committees on ways and means and the joint committee on bonding, capital expenditures and state assets.

SECTION 4. The city of Newton shall be responsible for all costs and expenses including, but not limited to, costs associated with any engineering, surveys, appraisals and deed preparation related to the transfers and conveyances authorized in this act as such costs may be determined by the commissioner of capital asset management and maintenance. Upon conveyance of the parcel, the city shall be solely responsible for all costs, liabilities and expenses of any nature and kind for the development, maintenance, use and operation of the parcel.

Approved, November 25, 2013.

October 16, 2014

Mr. Warren A. Madden
Division of Capital Asset Management

SUMMARY OF IMPORTANT FACTS AND CONCLUSIONS

Subject Property:	A Reservoir
Property Address:	Waban Hill Reservoir, along Ward Street, Newton
Property Owner:	Commonwealth of Massachusetts
Appraisal Objectives:	Estimate market value of the subject property
Appraisal Function:	Provide guidance on current market value for purpose of disposition and acquisition
Effective Valuation Date:	August 11, 2014
Property Rights Appraised:	Fee simple
Site:	5.09 acres
Improvements:	250 square foot gate house
Zoning:	PUB Public Use
Highest and Best Use:	Conservation/Open Space/Passive Recreation
Valuation Analysis Conclusions:	
Income Approach:	N/A
Market Approach:	\$404,800
Cost Approach:	N/A
Final Market Value Conclusion:	\$404,800
Anticipated Market Exposure:	six to twelve months

October 16, 2014

Mr. Warren A. Madden
Division of Capital Asset Management

APPRAISAL REPORT INTRODUCTION ---

The subject property consists of approximately 5.09 acres of vacant land, located along Ward Street in Newton.

Address and Legal References

The subject property, the Waban Hill Reservoir, is located in the Chestnut Hill area of Newton and is surrounded by Ward Street, Reservoir Drive, Woodlawn Road and Manet Road, Newton, Massachusetts. It appears to be identified as Parcel 630070001 on the Newton Assessors maps.

Property Ownership

As of August 11, 2014, title to the subject property, as described above, is vested in the Commonwealth of Massachusetts, as shown in various documents recorded at the Middlesex County Registry of Deeds.

Tax Assessment & Real Estate Taxes

The City of Newton Board of Assessors has assessed the parcel for FY 2014 as follows:

<u>Address</u>	<u>ID</u>	<u>Use</u>	<u>Land</u>	<u>GLA</u>	<u>Land</u>	<u>Total</u>	<u>Tax Rate</u>	<u>Tax</u>
Ward St	630070001	971	5.06	214	\$3,272,800	\$3,272,800	\$12.12	\$39,666.34

The subject property is assessed as Commonwealth of Massachusetts owned land and is therefore exempt from local property taxes. The tax calculation is shown for reportorial value only. The current assessed land value appears high with respect to our estimate of value. A review of the assessments for other exempt properties indicates that the property is equitably valued by the town.

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Sales Comparison Approach

This approach provides a useful analytical tool which attempts to abstract from actual realty conveyances a common denominator, typically expressed as sale price per physical or economic unit, and is subsequently adjusted to reflect the characteristics of the subject, which serve as the standard. Adjustments to the comparable sales are made for such factors as time, location, size, topography, shape, and frontage, as well as other economic factors affecting market value.

A survey of land sales in the Newton area, including Middlesex County and surrounding areas, was conducted by the appraisers. Particular attention was focused on sales for conservation uses similar to the subject property. The following sales were considered.

City	Address	Sale Date	Sale Price	Acres	\$/Acre	Seller	Buyer
Newburyport	Curzon Mill	6/27/2014	\$212,500	5.00	\$42,500.00	Welch RT	City of Newburyport
Newburyport	99 Curzon Mill	6/27/2014	\$212,500	5.22	\$40,708.81	Welch RT	City of Newburyport
Concord	22 Fairhaven	7/2/2013	\$450,000	12.58	\$35,771.07	MJ Thompson	Meyer FT
Brookline	Fisher Hill Reservoir	2/10/2011	\$800,000	9.93	\$80,563.95	DCAMM	Town of Brookline
Sudbury	L69 Chanticleer	2/25/2010	\$200,000	9.40	\$21,276.60	Bowker Land Corp	Clearwater Pond, LLC
	Average		\$375,000	8.43	\$44,164.08		
	Median		\$212,500	9.40	\$40,708.81		

The sales used here consist of recent transfers in the geographical area competitive with the subject and include properties of similar size and nature. The subject property has been compared with five sales. The sales span the time period from February 2010 to June 2014. One of the sales (in Brookline) was purchased by the Town of Brookline, from the Commonwealth of Massachusetts and is the sale of a reservoir. The Sudbury sale is the transfer of a pond to a trust comprised of the abutters. The remaining sales and offerings consist of residential lands that were subject to conservation restrictions. The sales present a range of sales prices from about \$21,000 per acre to \$80,500 per acre.

The market for state owned land is extremely limited since it requires an act of the Legislature to accomplish a transfer. The subject property is encumbered with restrictions that preclude development of the property, and prescribe allowed uses of the property.

Conditions of Sale – All of the sales listed above are arm's length transactions with both buyer and seller acting out of self-interest. The sale from The Commonwealth to the Town of

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Brookline is included here because it is a very similar transaction compared to the one contemplated for the subject. The fiduciary duty that the Commonwealth has not to sell the property for too little is matched by the duty of the town not to overpay.

Date of Sale (Market Conditions) - The sales span the time period from February 2010 to June 2014. The market for conservation land is limited, and there are not enough sales to municipalities to track changes in prices. The general market has seen increasing residential land prices over the period spanned by the sales. We have reviewed transfers of land for conservation purposes and have concluded that time adjustments of 5% per year are warranted over the period in question.

Location - The subject property is located in Newton, along Ward Street. The sales are located in the towns of Brookline, Newburyport, Sudbury and Concord. Differences between the communities vary. The sales have been adjusted for locational differences.

Frontage and access and abutters - The subject site is surrounded by roadways which limits the desirability of the property to an abutter (there are no true abutters) or to a nearby property owner. The sales were all abutted by potential purchasers/interested parties that could drive up demand and prices. We have adjusted each sale downward to account for this superior element of each sale.

Land Area – Land area and price per acre are inversely proportional. That is, the larger the site, the lower the price per acre. The cause of this trend is the larger competitive market of buyers capable of making the purchase of a smaller site; the larger market results in higher price per acre. The trend is borne out in a number of analyses conducted by this office. Studies indicate that as size doubles, price per square acre declines by 5% to 10%. For adjustment of the sales, adjustments of up to 5% are applied here for each doubling or halving that is required to make a property equal in size to the subject.

Zoning and Use - The subject is zoned for public use, and is restricted to conservation use. None of the sales have similar underlying zoning as the subject, but all are subject to conservation restrictions similar to those at the subject. Properties that sell unencumbered by restrictions tend to sell at a higher price per square foot or acre than otherwise similar but encumbered parcels. This is due to the fact that restrictions on use for a particular property limit the market for that property. A common restriction is for a property to be used as open/recreational space. This generally limits the market of buyers to governmental or conservation entities. A restriction for a municipal use tends to limit the market for a

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property to a city or town (usually the city or town where the property is located). The reduction of market size tends to depress the price paid per square foot or acre. The effect that a use restriction has on price tends to be greater, the greater the extent of the restriction. A study by this office of the differences in price per acre obtained by conservation/recreation land sales and residential development land sales shows that for open space or conservation restrictions the effect can be up to 50%. For municipal use restrictions the effect tends to be lower. The sales without restrictions are adjusted downward by 20%. Sales with restrictions similar to the subject require no adjustment.

Conclusion – After adjustments, the comparable sales indicate a range of values from about \$40,000 per acre to \$90,000 per acre (rounded). The assignment of influence in each case is based on the appraiser's judgment of the reliability of that sale as an indicator of the value of the subject. It depends on such factors as the amount of adjustments required to produce the value indicator from a given sale, its similarity to the subject, the proximity in time, and other such factors. We have concluded to a value indication near the top of the range.

Therefore, based on the foregoing analysis, an overall unit value of \$80,000 per acre is concluded for the subject. With 5.06 acres, the estimated value of the land is \$404,800.

GEOTECHNICAL ENGINEERING EVALUATION REPORT

EXECUTIVE SUMMARY

The Waban Hill Reservoir Dam is regulated by the Commonwealth of Massachusetts, Department of Conservation and Recreation (DCR), Office of Dam Safety per 302 CMR 10.00 "Dam Safety." The dam is classified as Intermediate Size, (22 feet high, maximum storage of 60 acre-feet at the top of the dam) and High Hazard (located in an urban area where a failure would cause loss of life and/or significant property damage to commercial and residential buildings, secondary highways or railroads or cause interruption of use).

The Waban Hill Reservoir is an off stream impoundment that was used by the Massachusetts Water Resources Authority (MWRA) to provide high service pressure. It was filled via water pumped through a water supply pipeline to provide a water source to provide backpressure in a connecting pipeline to start an emergency pump at the Chestnut Hill Reservoir Pump Station. The reservoir is now a redundant feature in the water supply system and has been decommissioned from service. The 20-inch diameter pipeline used to fill the reservoir has been disconnected making it impossible to fill the reservoir beyond the current levels other than by rainfall. The drainage area of the reservoir is limited to the interior of the embankments and encompasses approximately 2.9 acres of the 5 acre property. There is no overflow spillway at the reservoir. The outlet works at the gatehouse serve as the only discharge structure at the dam.

Waban Hill is drumlin, a small hill composed of glacial till. The reservoir was formed by the construction of a 1,300 feet long earthen embankment that was cut into the hillside at the northeast corner with a maximum height of 22 feet and a maximum storage capacity of 60 acre-feet. The historic normal pool elevation for the reservoir is at elevation (El) 259 Boston City Base. The bottom of the reservoir is at El 246 and the top of the embankment is at El 270. The current reservoir level is at El 255± one foot leaving a water depth of 9 feet. The upstream slope is armored with hand placed granite block riprap at a 1.5 horizontal (H) to 1 vertical (V) slope. The crest of the embankment is flat; grass covered, and is about 15 feet wide. The downstream slope is also grass covered at 1.7H to 1V and varies in height from 0 feet at the northeast corner to 22 feet at the southeast corner of the reservoir. The gatehouse is located at the southwest corner of the reservoir. The primary inlet/outlet to/from the gatehouse was a 20-inch diameter cast iron pipe that has been permanently disconnected from the MWRA system. A secondary outlet is an 8-inch diameter cast iron drain which can be used to manually control the reservoir elevation. This 8-inch drain discharges to an 8-inch diameter cast iron pipe in Ward Street and is the only means for lowering and controlling the water level within the reservoir. With the disconnection from the MWRA system, the reservoir impoundment is only effected by rainfall and evaporation. If the impoundment level increases, the water surface can be manually lowered by discharging water into the City of Newton storm water drainage system.

Eight test borings (B-1 through B-8) were drilled to determine the internal makeup of the embankment in January 2014. The test borings generally encountered a surficial topsoil layer underlain by embankment fill and glacial till. Embankment fill samples primarily consisted of dense brown fine silty sand and extended to a depth of about 20 feet or El 250 in each of the four borings drilled from the dam crest. Beneath the embankment fill, a stratum of glacial till approximately 17.5 feet to 24 feet in thickness was encountered and described as a very dense gray/brown, fine to coarse sandy silt, trace clay. Bedrock was



GEOTECHNICAL ENGINEERING EVALUATION REPORT

between El 251 to 248, respectively. Although the results of the slope stability analyses did not meet the minimum failure requirement for the steady state condition, it is believed that the embankment will remain basically stable under the current conditions. The potential failure surfaces identified in the stability analyses are surficial and relatively shallow. A substantial embankment would remain if a slide did occur minimizing the impact of a release of the stored water within the reservoir. With the reservoir maintained at El 255, the water storage is limited to 17 acre-feet which is further reduced due to the toe of the embankment at the maximum section near the intersection of Ward Street and Manet Road being at El 248.

The following items were discussed during the presentation of the Waban Hill Reservoir Embankment Dam Investigation and Evaluation Results on April 1, 2014.

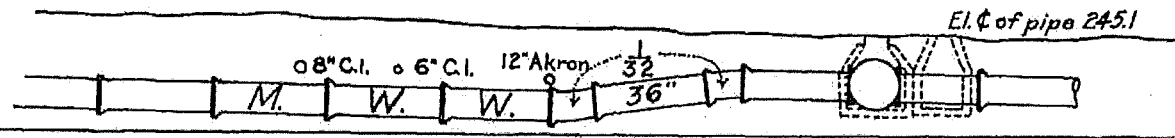
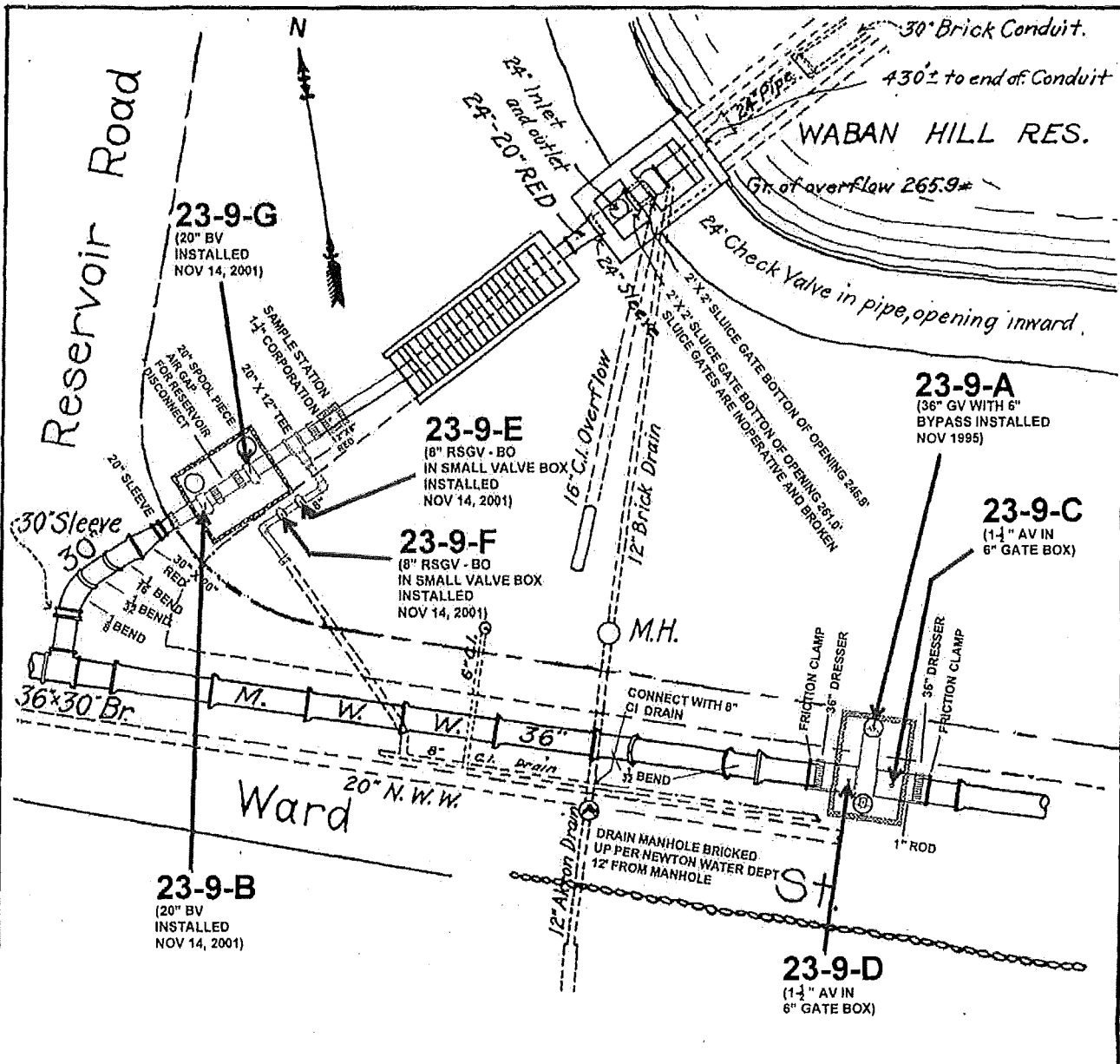
If the reservoir and embankment are maintained in its present condition, the annual maintenance costs would amount to mowing of the grass on the embankments one or two times per year (approximately \$2,000 to \$4,000). Because the dam is currently rated as High Hazard Dam, a Phase I Dam Inspection/Evaluation Report is required to be submitted to the Office of Dam Safety every 2 years. The next inspection is due in September 2014. The cost for the inspection and report is approximately \$4,000 to \$5,000 every other year. In addition, an update to the Emergency Action Plan (EAP) prepared for the dam is required to be submitted to the Office of Dam Safety annually. Assuming MWRA has a plan in place, the initial update of the EAP will require the inclusion of current City emergency responders. The cost for the update would range between \$8,000 to \$12,000. Thereafter, the annual EAP update would be approximately \$1,000 and could be performed by City personnel.

Regarding the repairs outlined in the 2012 Phase I Dam Inspection/Evaluation Report, the vegetation growth along the upstream slope of the dam should be removed. The estimated cost for this maintenance item was between \$5,000 to \$10,000 and could be performed by City personnel. Based upon the results of the stability analyses performed, the heaving/bulging on the granite block slope protection along the upstream slope of the embankment does not need to be reconstructed. It appears that the observed movement was the result of a sudden drawdown of the water surface within the reservoir for the startup of the emergency pump at the Chestnut Hill reservoir, a condition that can no longer occur due to the decommissioning of the reservoir from the MWRA system. The blocks do not need to be reset or grouted. The blocks do enhance the stability of the upstream slope and should be left in place.

Filling of the voids beneath the steps to the gatehouse does not have an impact on the stability/performance of the reservoir. It is a potential safety issue that should be addressed by the City if opened to public use. The estimated cost for the repairs to the steps ranged between \$10,000 to \$25,000. There were no active animal burrow holes observed along the downstream slope of the embankment. If noted the animals should be trapped and removed. Active use of the reservoir by the public and regular maintenance of the embankment with grass mowing will discourage burrowing animals.

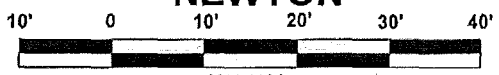
Repairs to the gatehouse would include roof replacement and the installation of a new slide gate to allow the City to maintain a maximum water surface elevation within the reservoir no higher than El 256 (current levels) via the 8-inch diameter drain pipe to the City storm water drainage system in Ward Street. A copy of the gatehouse/valve locations is attached. New resilient seated gate valves were installed along





240 FT. ABOVE BOSTON CITY BASE
PROFILE

36" GATE VALVE WITH 6" BY-PASS INSTALLED NOV 1995
20" BUTTERFLY VALVES, 8" BLOW OFF RETROFIT AND
RESERVOIR DISCONNECT INSTALLED
NOVEMBER 2001
GATE HOUSE AT WABAN HILL RESERVOIR - WARD STREET
NEWTON



DRAFTED MARCH 13, 2006

JAN 1901
CORRECTED FEB 1913

From Chestnut Hill Res. Sta. 79+18 A.V.

Detail Record 23-9