Welcome Everyone!

- Introduction
- Summary of Prior Meetings
- Preferred Design
- Preliminary Project Costs and Alternates
- Public Discussion
- Summary and Conclusion
Project Goals and Priorities

- Safety and accessibility;
- Community gathering;
- Opportunities for people of all ages and abilities; and
- Beautiful, natural, historic open space.
Baseline Improvements

- Universal access
- Masonry repair
- Renovation/repair of walking paths
- Drainage and utility improvements
- Turf and planting renovation
- Removal of invasives
- Solutions for MA Office of Dam Safety
Design Review Process

- Establishment of Design Review Committee
- Open discussion in public meetings
- Final presentation to and vote by Park and Recreation Commission
- Construction bid package by Town staff
- Total budget $2.2 million, including gate house and masonry repair
Project Timeline

Meeting 1: Gathering Input from the Community
June 19

Meeting 2: Discussion of Alternatives
September 26

Site Walk: October 18

Meeting 4: Preferred Design with Budget
January 3

Meeting 3: Development of Design with Associated Costs
November 21

Meeting 5: Submit to Park and Recreation Commission
End of January

Evaluate Input and Determine Priorities to Develop Design Alternatives

Meeting 3: Development of Design with Associated Costs

REVIEW PROCESS

SPR/ SUM 18

Develop Construction Documents

Bidding & Contract Awarded

SPR 17 SUM 17 FALL 17 WIN 17
State Requirements for Dam Safety Compliance

ODS POLICY ON TREES ON DAMS

- Dam embankments must be maintained free of trees and brush
- No trees and brush within 20 feet of dam or appurtenant structures
- Healthy uniform cover of grass is recommended
- Permit required if vegetation to be removed is greater than 4 inches in diameter

REGULATED BY MASSDCR OFFICE OF DAM SAFETY (ODS)

"INTERMEDIATE" SIZED STRUCTURE

"HIGH" HAZARD CLASSIFICATIONS

2014 INSPECTION

- Dam is generally well maintained
- Observed deficiencies

JANUARY 3, 2018

BROOKLINE RESERVOIR PARK
SUMMARY OF PRIOR MEETINGS

JANUARY 3, 2018
Prior Meetings

- DRC Meeting 1 – June 19\textsuperscript{th}
- DRC Meeting 2 – September 26\textsuperscript{th}
- Site Walk – October 28\textsuperscript{th}
- DRC Meeting 3 – November 21\textsuperscript{st}
Comments Heard

- Concern about loss of vegetation
- Appreciation of history
- Understanding of accessibility requirements & goals
- Importance of maintaining the park’s character
- Drainage issues:
  - Reduce standing water in swales
  - Address erosion on Lee Street bank
  - Address stormwater management
- Desire for amenities: bicycle racks, drinking fountain, distance markers
- Deterioration of infrastructure
- Careful consideration of site furniture
- Address ‘uncomfortable’ presence of Route 9
- Removal of invasive plants
- Walnut and Lee Street entries are not high priorities
- Bicycle racks to be located further from street edge
- Concerns about adding parallel parking along Warren
- Consensus for rectilinear approach to path at Gatehouse
Masonry Evaluation & Potential Repair

- Reset capstones on retaining wall along Route 9
- Repair needed at basin armature

Estimated Cost for Masonry: $458,000
Gate House Improvements

Estimated Cost for Gatehouse: $250,000
Stonedust Path

Existing condition 8’-16’ wide stone dust, no edge
PROPOSED: 10’ wide

Proposed Distance marker

Existing Stonedust Path at Gatehouse
Stonedust Path & Platform at Gatehouse

PROPOSED PLATFORM

Estimated Cost for Platform and Railing: $100,000
Lee Street / Dudley Way Entrance

Existing Conditions

Estimated Cost for Lee/Dudley Way Entrance:
$ 56,000
Dudley Way Entrance

Existing Conditions

Estimated Cost for Dudley Way Entrance: $11,000
Accessible Option: ADD $22,000
Dudley Street Entrance - 2

Existing Conditions

Estimated Cost for Dudley Street Entrance: $ 37,000
Entrance at End of Dudley Street

Existing Conditions

Estimated Cost at the End of Dudley Street: $7,600

Base Improvements
Walnut Street Entrance

Existing Conditions

Estimated Cost for Walnut Street Entrance: $1,500

Base Improvements

- Refinish existing concrete stair
- Repaint handrails
Warren Street Entrance

Existing Conditions

Base Improvements

Estimated Cost for Warren Street Entrance
Base: $133,000
1st Option: ADD $29,000
2nd Option (Max): ADD $244,000
3rd Option (minimal): SAVE $112,500
Warren Street Entrance

Existing Conditions

Proposed First Option - Pedestrian Entrance

1st Option: ADD $29,000
Warren Street Entrance

Existing Conditions

Proposed Second Option (Full Build)

2nd Option (Max):
ADD $244,000
Warren Street Entrance

Existing Conditions

3rd Option (Minimal):
SAVE $112,500
Stormwater Management Goals

- Increase Infiltration → decrease standing water
- Decrease Impervious Surfaces
Stormwater Management Goals

- Increase Infiltration: bioretention areas
Stormwater Management Goals

- Increase Infiltration: bioretention areas
Stormwater Management Goals

• Increase Infiltration
  o Swales and dry wells
  o Reduce impervious surfaces
Planting Goals

- Address ODS requirements
- Augment Cherry trees
- Remove failing trees
- Plant new trees for ‘arboretum’ character
- Remove invasives and plant new understory plants
- Revitalize troubled turf areas
- Add stands of ornamental grasses
Understanding ODS Implications

ODS POLICY:
• Remove all under-brush and trees, establish uniform cover of grass

Existing Conditions

ODS Policy
Understanding ODS Implications

PROPOSED REFINED APPROACH:

- MUST - Remove all under-brush & trees under 6” cal.
- MUST - Remove trees adjacent to Gatehouse & trees in poor health
- Maintain trees – back of embankment, above water level & 6”+ caliper and healthy
- Maintain trees – along top of bank (i.e. Cherry trees)

Existing Conditions

Proposed Refined Approach
Existing Vegetation

- Shade trees over lawn
- Wooded areas: trees with understory
- Signature Cherry trees
Diagram of Tree Removals

- Proposed Refined Approach for ODS
  - Understory removal
  - Tree removal
- Remove failing trees
- Remove invasives from wooded areas
Conditions Before New Planting

- Trees removed
- Understory removed from Dam
- Invasives removed
Proposed New Planting
Proposed Planting Palette

**TREES**

- **Red Maple**
  - *Acer rubrum*

- **Ruby Horsechestnut**
  - *Aesculus carnea*

- **Paper Birch**
  - *Betula papyrifera*

- **Katsura Tree**
  - *Cercidiphyllum japonicum*

- **Redbud**
  - *Cercis canadensis*

- **Fringetree**
  - *Chionanthus virginicus*

- **Yellowwood**
  - *Cladrastis kentukea*

- **Kentucky Coffeetree**
  - *Gymnocladus dioicus*

- **Turkish Filbert**
  - *Corylus colurna*
Proposed Planting Palette

TREES

Kwanzan Cherry
Prunus serrulata

Tuliptree
Liriodendron tulipifera

Sweetgum
Liquidambar styraciflua

Sourwood
Oxydendrum arboreum

Carolina Silverbell
Halesia

Scarlet Oak
Quercus coccinea

Pin Oak
Quercus palustris

Red Oak
Quercus rubra

Umbrella Pine
Sciadopitys
Proposed Planting Palette

**SHRUBS AND UNDERSTORY**

- **Bottlebrush Buckeye**
  - Aesculus parvifolia

- **Red Chokeberry**
  - Aronia arbutifolia

- **Cornelian Cherry**
  - Cornus mas

- **Gray Dogwood**
  - Cornus racemosa

- **Redtwig Dogwood**
  - Cornus stolonifera

- **Witchhazel**
  - Hamamelis x intermedia

- **Inkberry**
  - Ilex glabra

- **American Holly**
  - Ilex opaca
Proposed Planting Palette

SHRUBS AND UNDERSTORY

Winterberry
Ilex verticillata

Mountainlaurel
Kalmia latifolia

Spicebush
Lindera benzoin

Bayberry
Myrica pensylvanica

Low Grow Sumac
Rhus aromatica ‘Low Grow’

Mayflower Viburnum
Viburnum carlesii

Am. Cranberrybush
Viburnum opulus
Proposed Planting Palette

GRASSES

Bluestem Grass

Redtop Grass

No Mow Grass
Site Furniture, Fencing and Railings

- Proposed "Big Belly" trash/recycling
- Proposed new bike racks & signage
- Proposed drinking fountains
- Proposed additional seating
- Reinstall mile-marker
Site Furniture

Existing site furniture

Potential site furniture
Possible Site Furniture Arrangements

Family of furniture—
Single seats, side tables

Radial bench for under trees

Single seats w/table

Conversational benches
Edge Treatment along Rte. 9

Existing edge at Route 9

Extent of Ornamental Fence at Top of Slope

Base: $195,000 for 905 LF

SAVE: $74,000 for 605 LF
Options for Ornamental Fence: Along Rte. 9

**STEEL POSTS, PIPE RAIL WITH MESH INFILL**
$215 per linear foot
Base: $195,000

Century Metropolitan

**STEEL POSTS AND PICKETS**
$205 per linear foot
SAVE: $9,500
PRELIMINARY COSTS
**PRELIMINARY ESTIMATE REVIEW**

**Construction Budget in the CIP: $2,200,000.00**

<table>
<thead>
<tr>
<th>Priorities</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Gatehouse</td>
<td>$250,000</td>
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<tr>
<td>Platform and Handrails</td>
<td>$100,000</td>
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<tr>
<td>All Masonry</td>
<td>$457,000</td>
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<tr>
<td>SP&amp;D, Earthwork &amp; Utilities</td>
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<tr>
<td>Stonedust Path</td>
<td>$97,700</td>
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<td>Ornamental Fence Along Route 9</td>
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<tr>
<td>Site Furniture</td>
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<tr>
<td>Tree Planting and Seeded Areas</td>
<td>$193,100</td>
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<td><strong>$1,912,600</strong></td>
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| 15% Contingency                                    | $286,900     |
| **TOTAL**                                          | **$2,199,500**|

**Stormwater Management – Bioretention Areas**

| Stormwater Management – Bioretention Areas         | $112,800     |

**Summary:**

- Accessible Entrances: Lee/Dudley and Dudley Street
- Improvements to Dudley Way Entrance, revegetate at the end of Dudley St, and improvements at Walnut St. and Warren St. entrances
- Removal of invasives and new understory planting
- Longer length of ornamental fence along Route 9
- Refurbish only Boston Benches
- Donations: cherry trees and new seating
**Preliminary Estimate & Priorities**

**Construction Budget in the CIP:** $2,200,000.00

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**Total:** $1,912,600

**15% Contingency:** $286,900

**Total:** $2,199,500

**Stormwater Management:** $112,800

**Add Alternates:**
- Warren Street Entrance – 1st Option (pedestrian entrance) ADD to Base $29,000
- Warren Street Entrance – 2nd Option (full build) ADD to Base $244,000
- Site Furniture – Refurbish remaining exist. benches ADD $20,800
- Bus Shelter ADD $20,000
- Dudley Way Entrance – make accessible ADD $22,000
- Ornamental Pipe Rail at Dudley Street/Way ADD $168,000

**Deduct Alternates:**
- Minimize Warren St Entrance Improvement DEDUCT $112,553
- Shorten Ornamental Fence DEDUCT $74,175
OPEN DISCUSSION
**Base:** $133,000

**1st Option:** ADD $29,000

**2nd Option (Max):** ADD $244,000

**3rd Option (Min):** SAVE $112,500
Contact Information

Your input is valuable - Please contact us with your ideas!

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