

ARLINGTON RESERVOIR MASTER PLAN



PUBLIC MEETING # 4
April 3, 2018

Cheri Ruane, RLA
Cassie Bethoney, RLA



ARLINGTON RESERVOIR MASTER PLAN




MEETING AGENDA

- 1. Phasing + Timeline**
- 2. Public Feedback Update**
- 3. Findings**
- 4. Preferred Concept Plan**
- 5. Cost Estimate + Phasing**
- 6. Funding Opportunities**
- 7. Next Steps**

ARLINGTON RESERVOIR MASTER PLAN

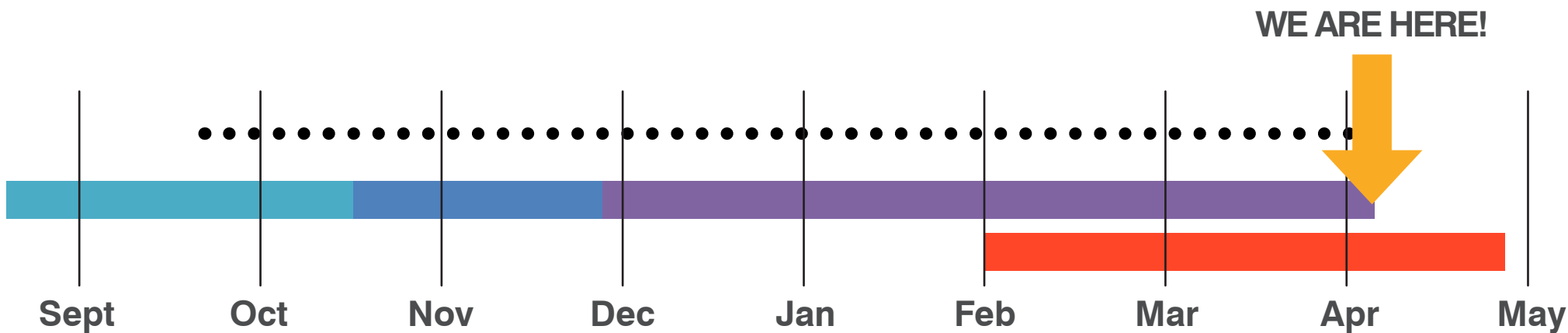
PROJECT PHASES + TIMELINE

Project Phases

-  Site Analysis + Environmental Information Gathering
-  Public Participation + Input
-  Conceptual Design + Environmental Assessment
-  Preferred Plan + Environmental Recommendations
-  Master Plan Report

Timeline

- Summer / Fall
- Project Duration
- Fall / Winter
- Winter
- Spring



ARLINGTON RESERVOIR MASTER PLAN

RECAP OF PREVIOUS PUBLIC MEETINGS



WHAT WE HEARD

- Environmental improvements for flora and fauna habitats
- Circulation enhancements
- Water access considerations (canoe, kayak and water chestnut harvester)
- Create opportunities for programmable space
- Improve swimming water quality and discussion over overall Res water quality
- Better, more accessible play experience
- Parking lot improvements/ improved boat ramp access
- Dog regulations are needed
- Trail improvements will include flexi-pave material instead of stonedust or asphalt
- Future snow storage will be discontinued
- Year-round playground access needed
- Maintenance plan is necessary

KEY OPPORTUNITIES

- The Res is already an awesome place!
- A few targeted moves will have a significant, positive impact
- Environmental improvements will greatly improve a large open space and infrastructural asset of the town

KEY CONSTRAINTS

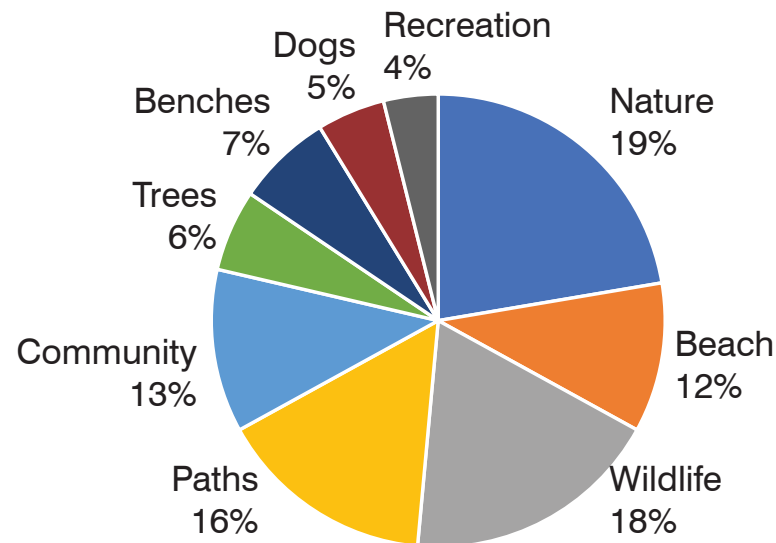
- Environmental sensitivity and permitting implications
- Deteriorating state of critical (operational) existing infrastructure and equipment
- The Res is already an awesome place!

ARLINGTON RESERVOIR MASTER PLAN

PUBLIC FEEDBACK UPDATE

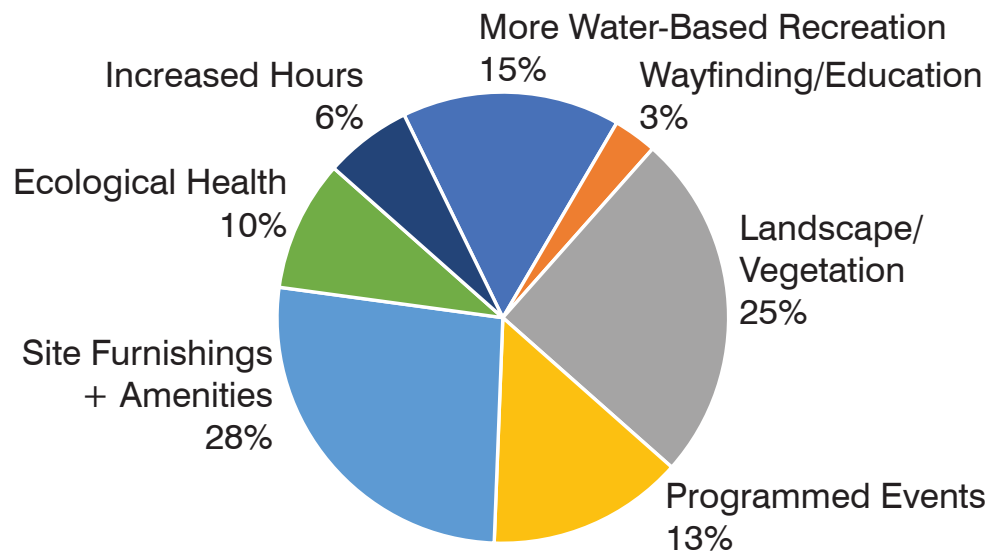
BEST THINGS ABOUT THE RES

- Swimming!
- Habitat garden, wildlife and trails.
- The willow trees.
- Shade and grass on the beach.
- Nature trail near Busa Farm.
- The loop trail.
- The shady beach!
- Fall/Winter walks with the dog.
- The beach is very affordable.



IMPROVEMENTS NEEDED

- More tables for lunch.
- Bigger swim area.
- Better maintenance of trails.
- Splash pad!
- Water slide.
- More walking/trail options.
- More events (concerts, movies, etc.)
- Swimming lessons.

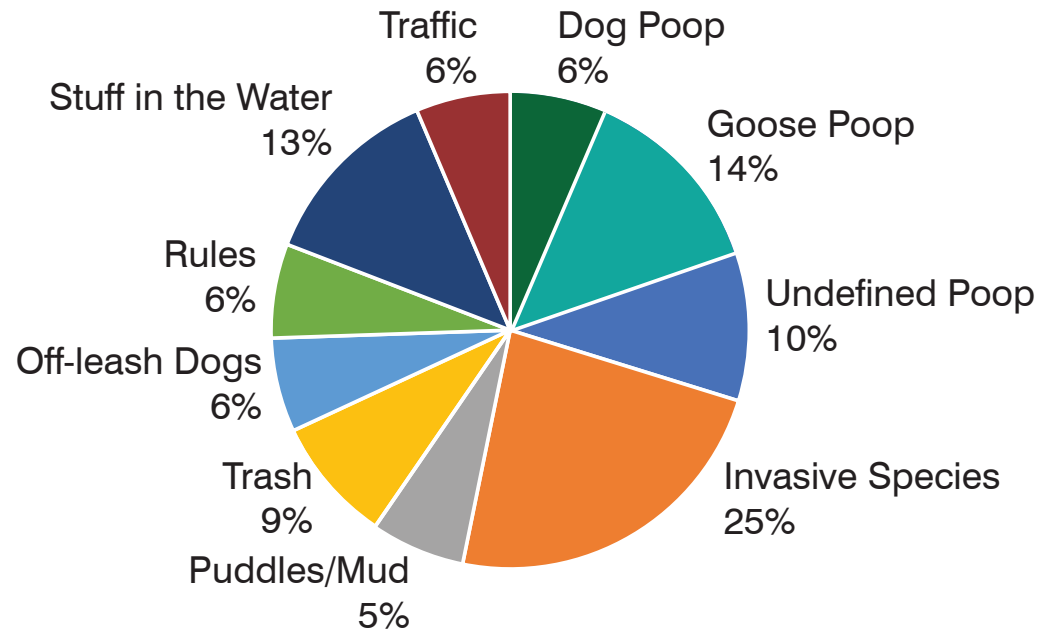


ARLINGTON RESERVOIR MASTER PLAN

PUBLIC FEEDBACK UPDATE (cont'd)

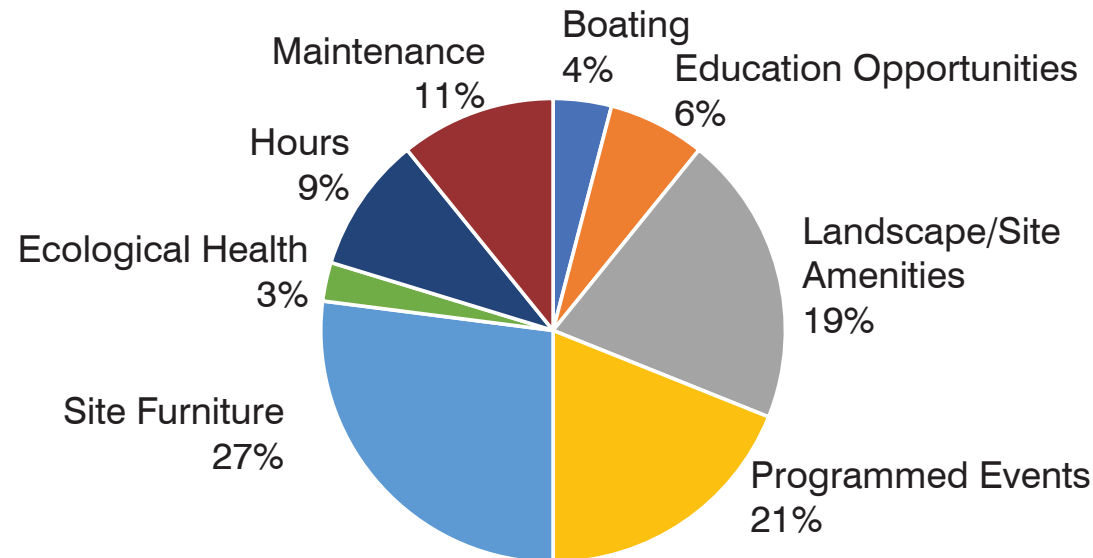
I WISH THE RES HAD LESS...

- Invasive plants.
- Debris floating in the water.
- Fencing along Lowell Street.
- Geese!
- Sediment in the swimming water.
- Erosion.
- Dog poop.
- Snow plowing! (cross country ski)
- Scum on bottom of swim area.



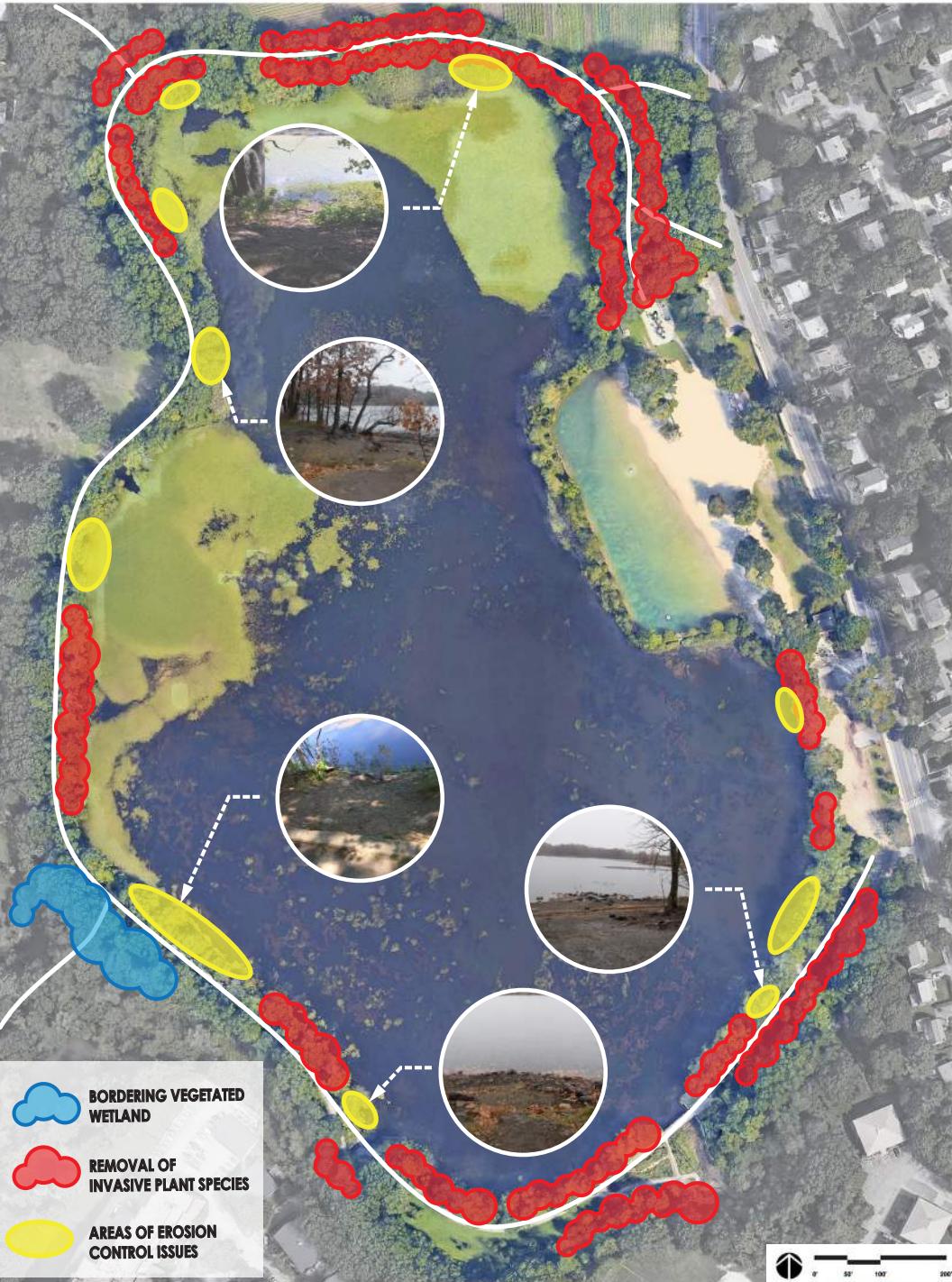
I WISH THE RES HAD MORE...

- Seating.
- Available beach hours in summer.
- Information on wildlife.
- Viewing opportunities.
- Public art.
- Year round access.
- Trash cans.
- Landscaped vegetation.



ARLINGTON RESERVOIR MASTER PLAN

ENVIRONMENTAL FINDINGS - MAPPING



BORDERING VEGETATED WETLANDS

Vitis riparia,
riverbank grape

Symplocarpus foetidus,
skunk cabbage

Onoclea sensibilis,
sensitive fern

Lythrum salicaria,
purple loosestrife

Acer rubrum,
red maple

Robinia pseudoacacia,
black locust

Rhus typhina,
staghorn sumac

INVASIVE SPECIES

Polygonum cuspidatum,
japanese knotweed

Celastrus orbiculatus,
asian bittersweet

Berberis thunbergii,
japanese barberry

Rosa multiflora,
muliflora rose

Euonymus alatus,
Winged euonymus

Lythrum salicaria,
Purple loosestrife

Lonicera morrowii,
morrow honeysuckle

Frangula alnus,
glossy buckthorn

ARLINGTON RESERVOIR MASTER PLAN

PUMP BUILDING + EQUIPMENT ASSESSMENT



RECOMMENDED IMPROVEMENTS

WATER FILTRATION + CLARITY

- New filtration system needed
- Renovate suction system and collector tank system
- New chemical feed system needed
- Introduce of UV treatment
- New inlet delivery system needed
- Skimming system needed

BUILDING

- Renovate interior
- New mechanical, electrical + plumbing
- Waterproofing + caulk repair



ARLINGTON RESERVOIR MASTER PLAN

EXISTING AERIAL - FULL RESERVOIR



ARLINGTON RESERVOIR MASTER PLAN

EXISTING AERIAL - BATHING BEACH + PARKING AREA



ARLINGTON RESERVOIR MASTER PLAN

EXISTING CONDITIONS



ARLINGTON RESERVOIR MASTER PLAN

PREFERRED PLAN - FULL RESERVOIR



ARLINGTON RESERVOIR MASTER PLAN

PREFERRED PLAN



ARLINGTON RESERVOIR MASTER PLAN

PRECEDENT IMAGERY



PUMP BUILDING OVERHANG



PAVILION



PLAY EQUIPMENT



INTERPRETIVE SIGNAGE



FLEXI-PAVE



BEACH VOLLEYBALL

ARLINGTON RESERVOIR MASTER PLAN

PHASE 1 IMPROVEMENTS COST ESTIMATE

- **Piloting of Trail & Reservoir Perimeter Improvements**
- **Pump Equipment Repair/Replacement**
 - New Filtration
 - Renovate Suction System & Collector Tank System
 - New Chemical Feed System
 - New UV Treatment System
 - New Inlet Delivery System
 - New Skimming System
- **Pump Building Repairs**
 - Structural Improvements
 - Roof Replacement
 - Outside Check In Area
 - Interior Clean Up and Painting
 - Reconfiguration of Space

PHASE 1 TOTAL: \$ 991,000

ARLINGTON RESERVOIR MASTER PLAN

PHASE 2 IMPROVEMENTS COST ESTIMATE

• Trail Improvements	\$ 252,000
• Bath House Renovations	\$ 286,100
• Parking Lot, Fence & Gates	\$ 411,500
• Boat Ramp	\$ 7,300
• Bathing Beach Infrastructure Improvements	\$ 350,000
• Dredging of Sediment	
• Exotic Vegetation Removals from Embankment	
• Embankment Reinforcement	
• Weir Construction	
• Armoring of the Interior Embankment Walls	
• Interpretive Signage	\$ 3,000
• Bathing Beach Renovations	
• Drop Off Area	\$ 24,700
• New Grilling Area at Concession	\$ 60,400
• Playground	\$ 225,000
• Pathway Improvements	\$ 166,400
• Overlook Areas	\$ 13,500
• Beach Volleyball	\$ 2,000
• New Tree & Shrub Planting	\$ 86,000
• Pruning of Existing Trees	\$ 20,000
• Beach Sand Replenishment	\$ 32,000
• Entry Plaza	\$ 48,000
• Pavilion/Shade Structure	\$ 87,400
• Terraced Seating	\$ 79,800

PHASE 2 TOTAL*: **\$ 3,290,000**

*Includes construction contingency; contract mobilization, overhead & profit; soft costs, including design, engineering and permitting

TOTAL PROJECT COST: **\$ 4,281,000**

ARLINGTON RESERVOIR MASTER PLAN

PHASE 2 IMPROVEMENTS COST ESTIMATE

• Trail Improvements	\$ 252,000
• Bath House Renovations	\$ 286,100
• Parking Lot, Fence & Gates	\$ 411,500
• Boat Ramp	\$ 7,300
• Bathing Beach Infrastructure Improvements	\$ 350,000
• Dredging of Sediment	
• Exotic Vegetation Removals from Embankment	
• Embankment Reinforcement	
• Weir Construction	
• Armoring of the Interior Embankment Walls	
• Interpretive Signage	\$ 3,000
• Bathing Beach Renovations	
• Drop Off Area	\$ 24,700
• New Grilling Area at Concession	\$ 60,400
• Playground	\$ 225,000
• Pathway Improvements	\$ 166,400
• Overlook Areas	\$ 13,500
• Beach Volleyball	\$ 2,000
• New Tree & Shrub Planting	\$ 86,000
• Pruning of Existing Trees	\$ 20,000
• Beach Sand Replenishment	\$ 32,000
• Entry Plaza	\$ 48,000
• Pavilion/Shade Structure	\$ 87,400
• Terraced Seating	\$ 79,800

PHASE 2 TOTAL*: **\$ 2,000,000**

*Includes site preparation and demolition; construction contingency; contractor mobilization, overhead & profit; soft costs, including design, engineering and permitting

TOTAL PROJECT COST: **\$ 2,991,000**

ARLINGTON RESERVOIR MASTER PLAN

FUNDING OPPORTUNITIES

MA EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS

- Massachusetts Executive Office of Energy and Environmental Affairs
- Parkland Acquisition and Renovations for Communities (PARC)
- Conservation Assistance of Small Communities
- Massachusetts Land and Water Conservation Fund
- Landscape Partnership Program
- Local Acquisitions for Natural Diversity (LAND) Program
- Planning Assistance Grants (housing, mitigation of climate change)
- Greenways & Trails Program
- Recreational Trails Program

MA DEPT OF ENVIRONMENTAL PROTECTION

- 604b Assessment Program
- State Revolving Loan Fund: Clean Water Fund

OTHERS

- MA Dept. of Fish and Game Wetlands and River Restoration and Revitalization Priority Projects (“Tech Support”)
- FEMA/DCR Pre-Disaster Mitigation Program
- FishAmerica Foundation Grants
- NOAA in partnership with American Rivers Community-based Restoration Program River Grants
- The National Audubon Society & Toyota TogetherGreen Innovation Grants Program
- Army Corp of Engineers (ACOE) Beach Erosion Control Programs
- ACOE New England (107) Small Navigation Project

ARLINGTON RESERVOIR MASTER PLAN

MASTER PLAN REPORT

- **Introduction and Executive Summary**
- **Background and Reservoir History**
- **Public Participation and the Community Process**
- **Existing Conditions**
- **Environmental Assessment**
- **Preferred Master Plan**
- **Implementation Strategy**
- **Maintenance and Monitoring Considerations**
- **Master Plan Budget Considerations**

- **Appendix**
 - Topographic Survey
 - Meeting Notes
 - Walkabout Guide Surveys
 - Excerpt on the Res from the ADA Self-Evaluation, Institute for Human Centered Design
 - 1982 Design Plans
 - A Tour of the Arlington Reservoir, Spring 2003
 - Birding Report by resident Karsten E. Hartel
 - Year End Report for the 2017 Management of Arlington Reservoir
 - Excerpt on the Res from the Arlington Ponds, 2007 Baseline Survey
 - Handout on the Arlington Reservoir Dam Rehabilitation Project, 2006
 - and More

ARLINGTON RESERVOIR MASTER PLAN

NEXT STEPS & PUBLIC COMMENT



THOUGHTS
QUESTIONS
COMMENTS