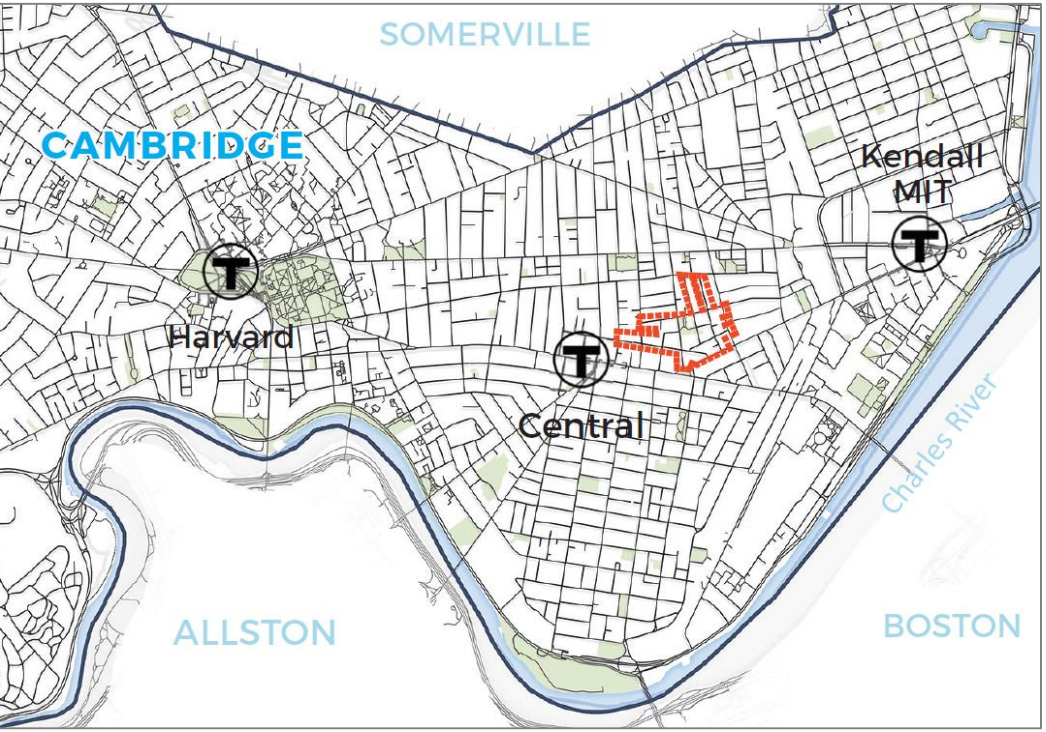
THE PORT PROJECT

Update




Bishop Allen Drive at School Street looking East - July 2010

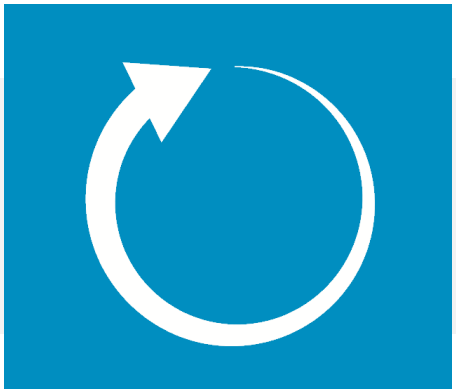
Margaret Fuller House | December 8, 2016

www.cambridgema.gov/theworks/theport

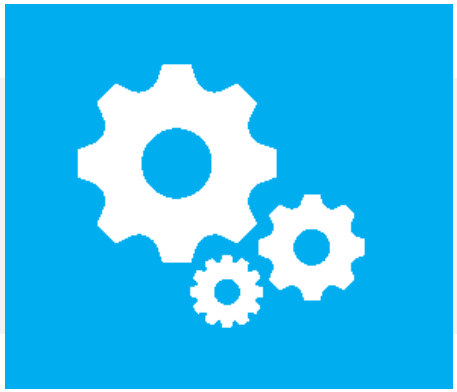
CAMBRIDGE DEPARTMENT OF PUBLIC THE WORKS

THE PORT PROJECT

Agenda



Project Overview



Design Options

Next Steps & Schedule

CAMBRIDGE DEPARTMENT OF PUBLIC THE WORKS

THE PORT PROJECT

Agenda

First time showing this presentation.

Thanks for participating in the trial run!

Would love feedback.

What helps explain the project?

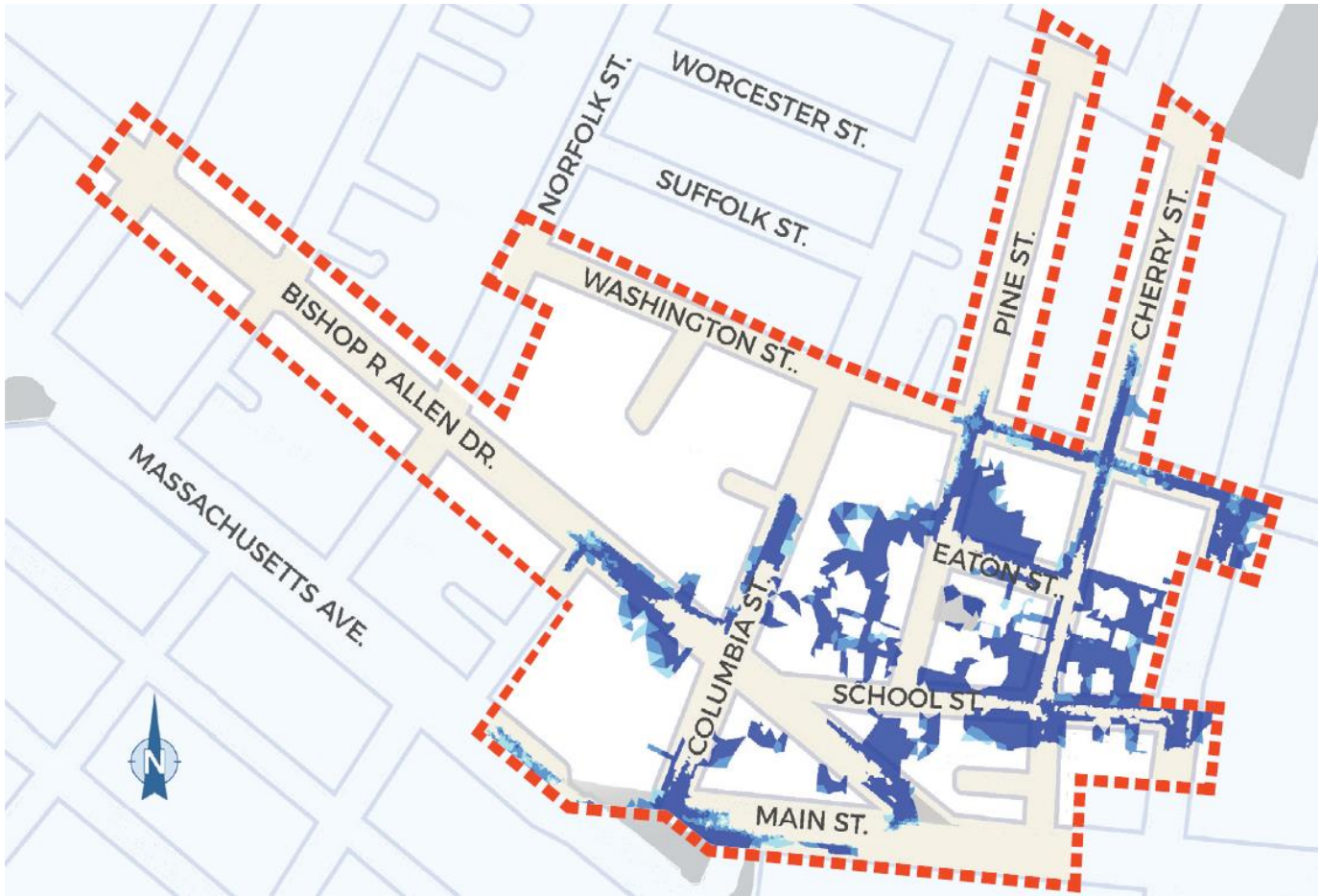
What is confusing?

What would you like to know more (or less) about?

CAMBRIDGE DEPARTMENT OF PUBLIC THE WORKS

Goals

Existing Conditions – Frequent / Smaller Storms



Anticipated flooding for a 2030, 10 year / 24 hour storm

Reduce surface flooding in the Port neighborhood

Risk of flooding expected to increase as climate changes

Opportunity to consider other neighborhood infrastructure

Goals

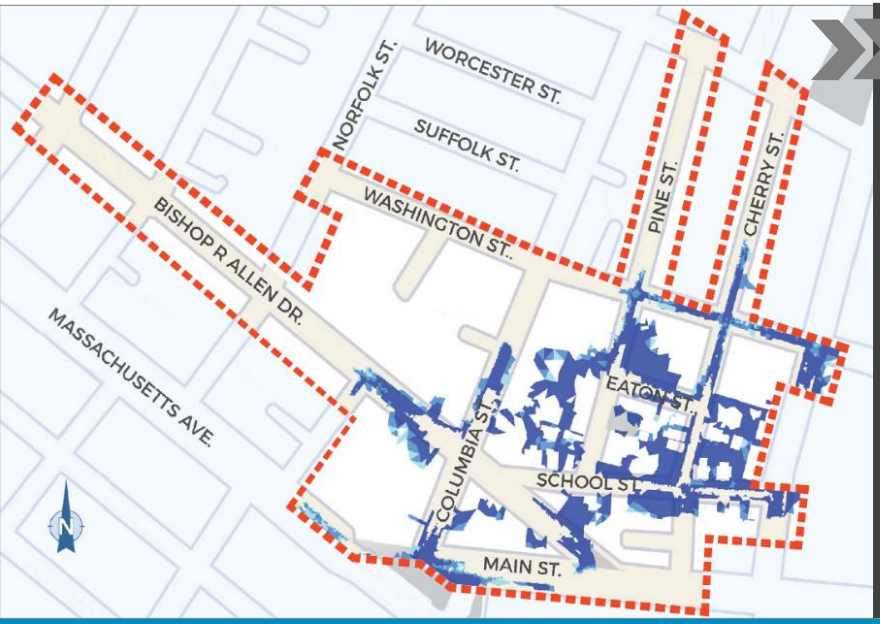
Existing Conditions – Frequent / Smaller Storms

Bishop Allen Drive @ School St Looking East, July 2010

Flooding is a real risk to the community – today and will increase in the future, due to Climate Change.

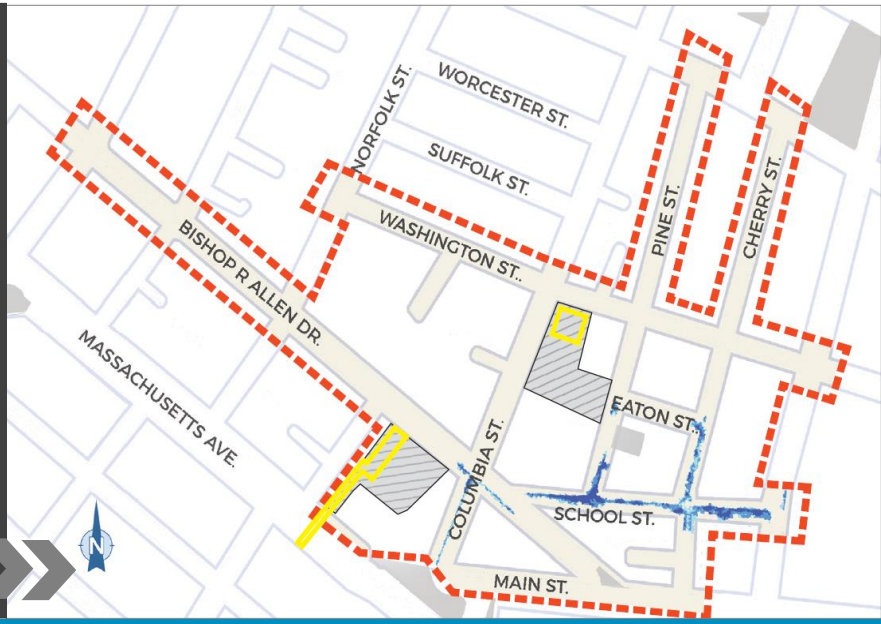
Benefits – Flood Reduction

Existing Conditions
Frequent / Smaller Storms



Decrease in surface flooding for frequent/ smaller storms

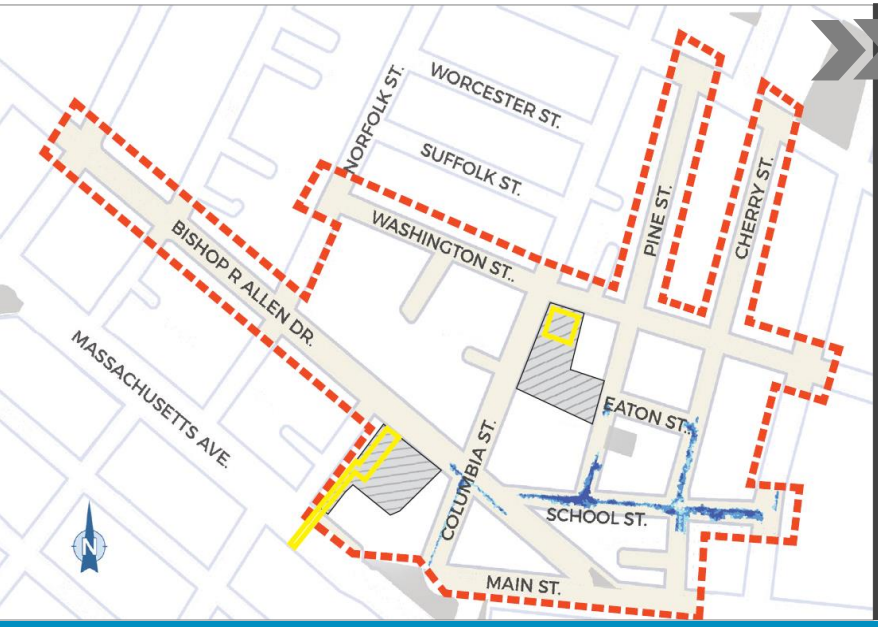
Storage Tanks Installed
Frequent / Smaller Storms



Anticipated flooding for a 2030, 10 year / 24 hour storm

Benefits – Flood Reduction

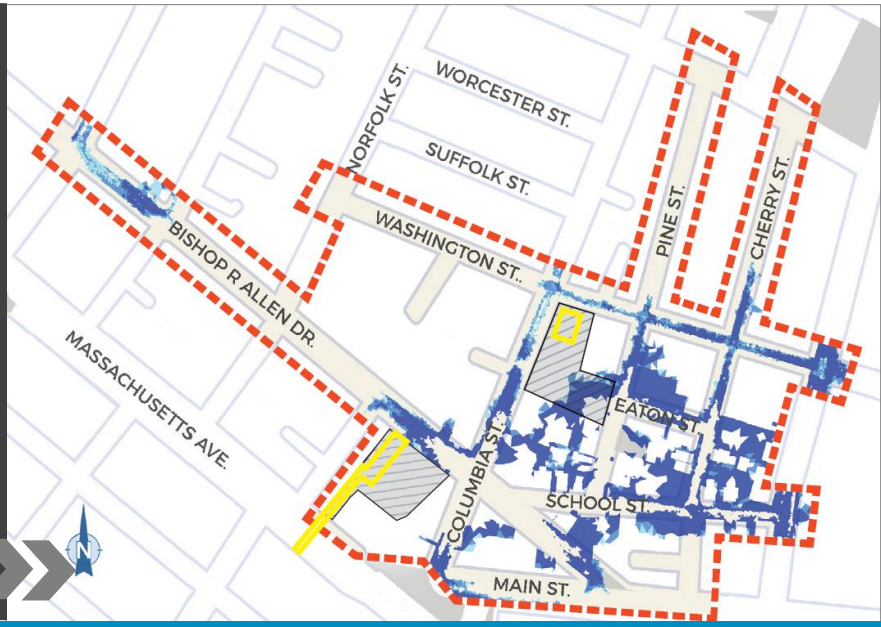
Storage Tanks Installed
Frequent / Smaller Storms



Anticipated flooding for a 2030,
10 year / 24 hour storm

Risk of surface flooding remains for larger/less frequent storms

Storage Tanks Installed
Less Frequent / Larger Storms



Anticipated flooding for a 2030,
25 year / 24 hour storm

Benefits – Flood Reduction

CITY OF CAMBRIDGE

Flooding: Is Your Property Protected?

- Existing Conditions
- New Construction
- Climate Change

September 2016

WHAT CAN I DO?

① Use Flood Resistant Materials

You can reduce the damage caused by flood waters and make cleanup easier by using flood damage resistant building materials. Building materials are considered flood resistant if they can withstand direct contact with flood waters for at least 72 hours without being significantly damaged. Flood damage resistant materials should be used for walls, floors, and other parts of a building that are below the anticipated flood level.

Flooring Materials
- Concrete, concrete tile, and pre-cast concrete
- Latex or bituminous, ceramic, clay, terrazzo, vinyl, rubber sheets and tiles
- Pressure-treated or decay resistant lumber
- Pressure-treated wood and cold-formed steel

Other
- Hollow metal doors and metal cabinets

Wall and Ceiling Materials
- Brick, metal, concrete, concrete block, porcelain, slate, glass block, stone, and ceramic and clay tile
- Cement board, cold-formed steel, and reinforced concrete
- Polyester epoxy paint
- Pressure-treated and decay resistant lumber
- Pressure-treated and marine grade plywood
- Foam and closed-cell insulation

TIPS
- Although using flood damage resistant materials can reduce the amount and severity of water damage, it does not protect your buildings from other flood hazards, such as the impact of flood borne debris.
- All hardware used in areas below the anticipated flood level should be made of stainless or galvanized steel.

ESTIMATED COST
- The cost of using flood damage resistant materials will vary, depending on the size of the project you undertake.

BENEFITS: HELPS PREVENT DAMAGE TO A STRUCTURE AND MAKES FLOOD CLEANUP EASIER.

② Build Exterior Floodwalls

An exterior floodwall can protect a window well or stair against low level flooding. Constructed of concrete or masonry, the walls should be supported by and securely tied into a footing so they will not be undercut by scouring. Understanding your particular flood situation and soil conditions is important in order to properly evaluate if a flood wall is the right solution for you.

Construct a watertight flood wall around the perimeter of the opening. The wall should be designed by an engineer and be constructed of steel reinforced poured concrete or steel reinforced concrete masonry units to prevent failure under flood conditions. Install a proper footing and anchor the floodwall to existing walls. Install a watertight, springloaded steel access door and watertight gaskets on sides and bottom of frame at any necessary opening.

③ Install Backwater Valves

Flooding can cause flow from sanitary sewer and drain lines to back up through pipes into buildings. These backups cause dama
backups is to install backwater valves; a device installed to prevent sewage and drainage from flowing backwards into basement flo
inside which allows wastewater to flow in one direction, out towards the street, but closes automatically and does not allow flow ba

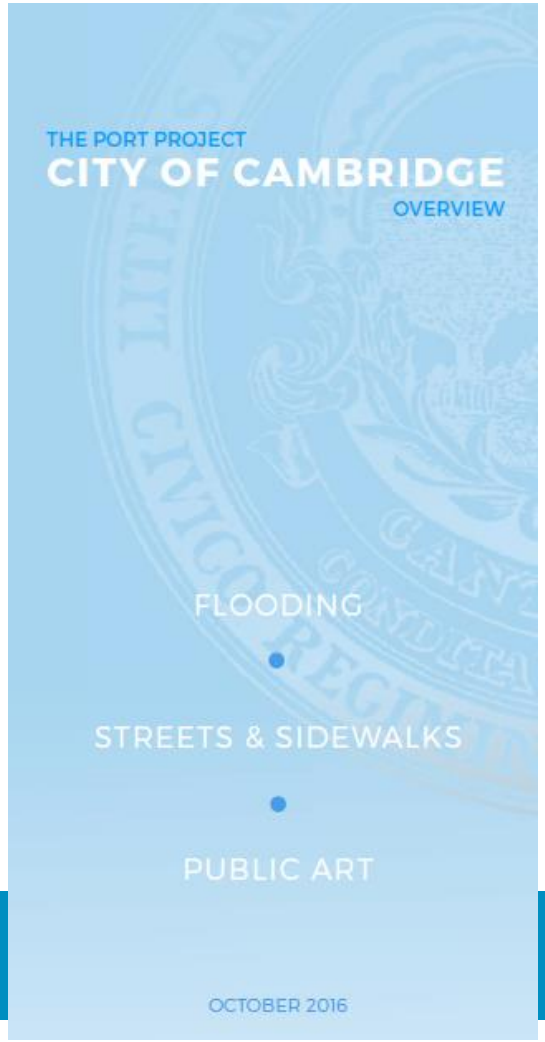
TIPS
- Changes to the plumbing in your property must be done by a licensed plumber or contractor.
- Valves should be installed on sewer and drain lines that are connected to equipment that is below the potential flood level. Therefore, valves may be needed on washing machine drain lines, laundry sinks, floor drains, and sump pumps.

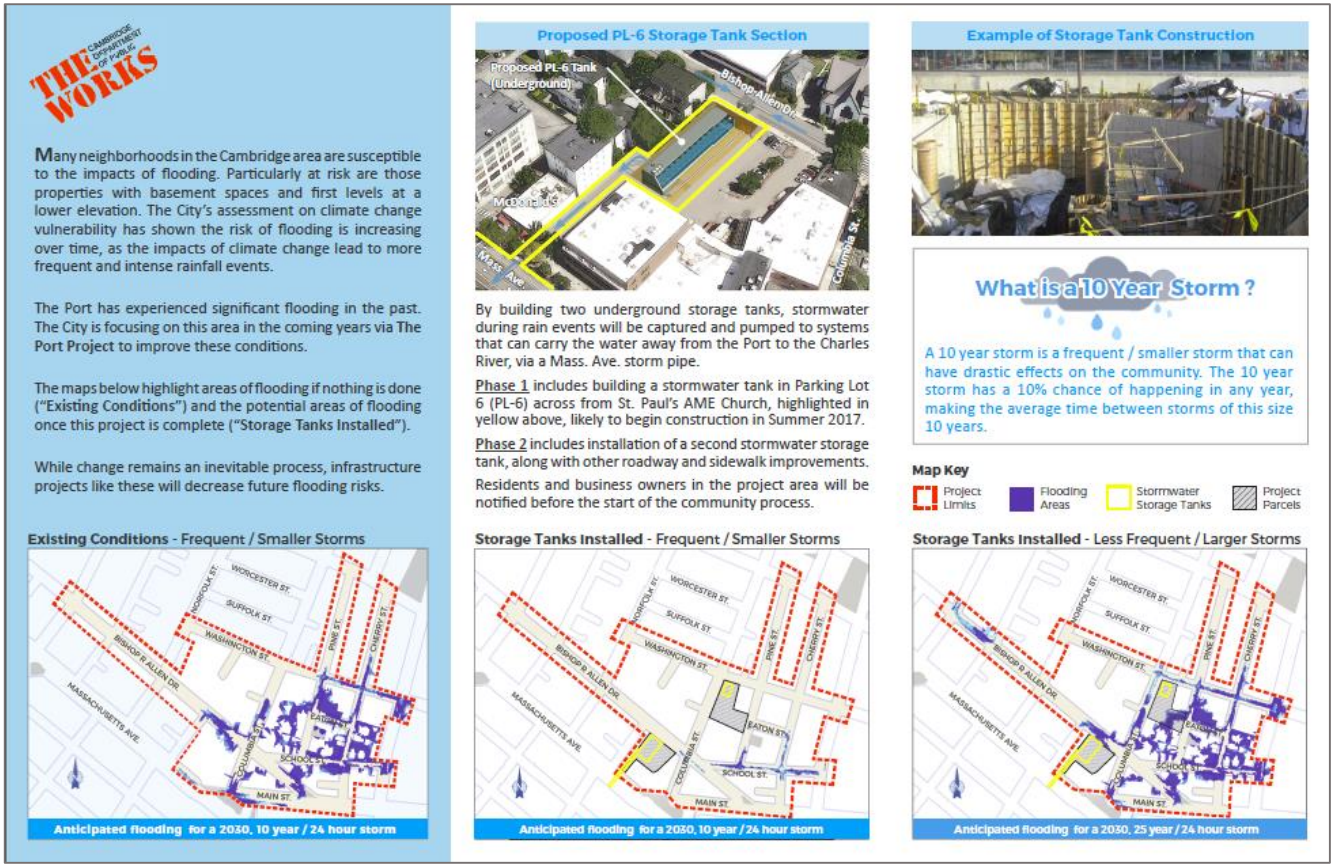
WHERE TO INSTALL
- Install on the plumbing of each basement fixture.
- Valves should be accessible for monthly maintenance.
- A licensed plumber can determine the appropriate installation location.

BENEFITS: HELPS PREVENT DAMAGE TO A STRUCTURE AND AVOID HAZARDOUS AND COSTLY CLEANUP, AS WELL AS PROTECT THE HEALTH AND SAFETY OF THE OCCUPANTS OF THE STRUCTURE.

Public Outreach and Education

Benefits – Flood Reduction

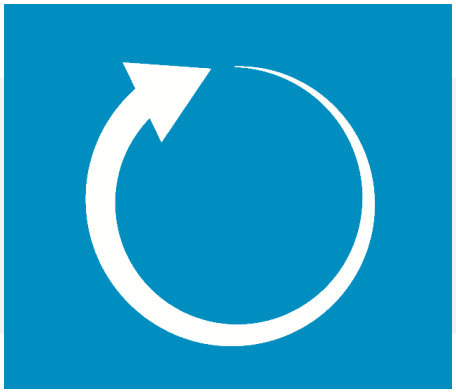




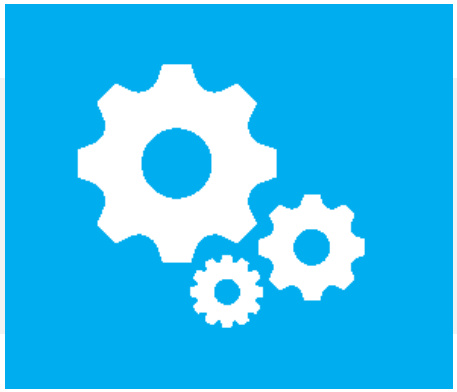
Public Outreach and Education

THE PORT PROJECT

Agenda



Project Overview



Design Options

Next Steps & Schedule

CAMBRIDGE DEPARTMENT OF PUBLIC THE WORKS

DESIGN OPTIONS

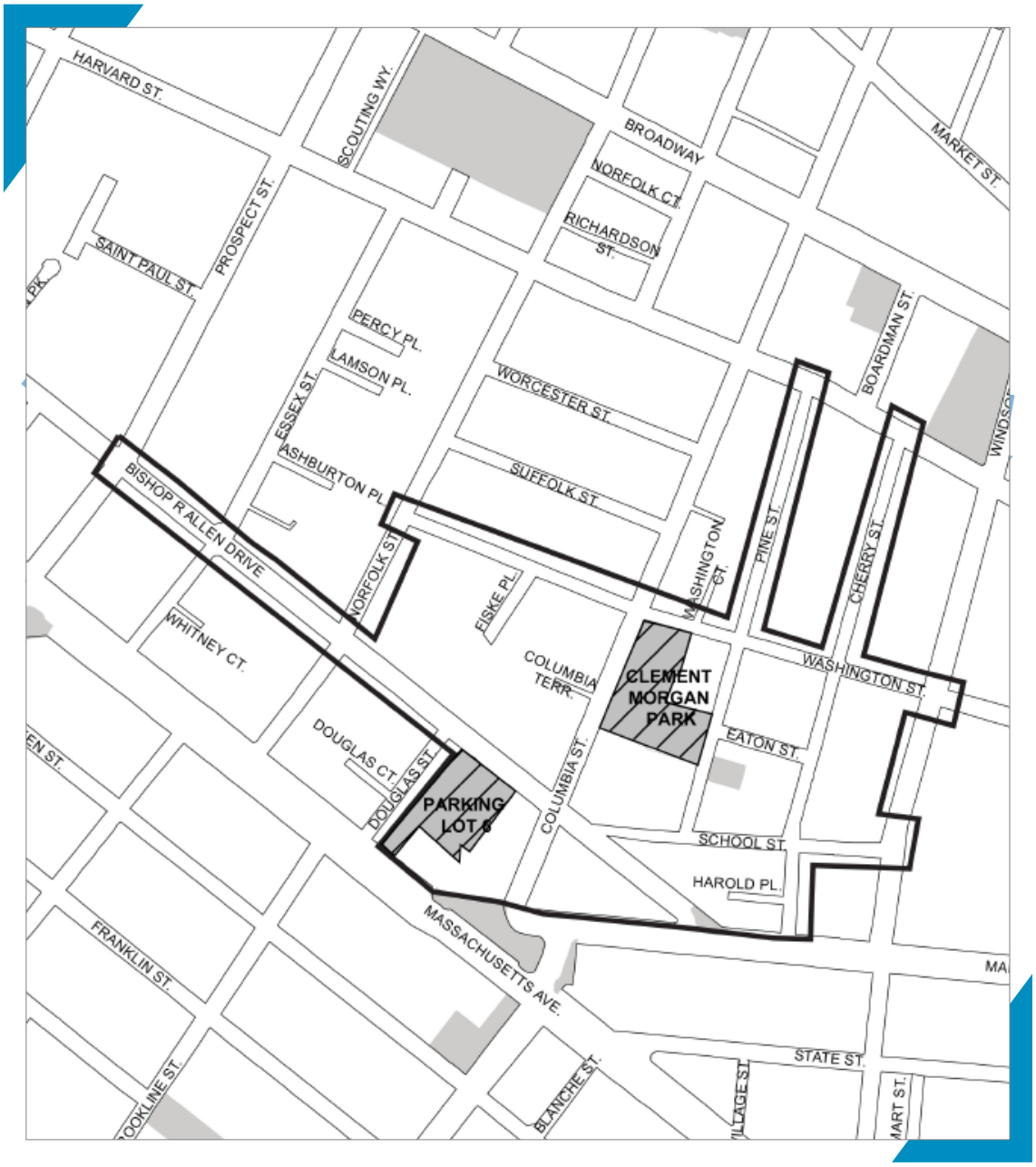
Project Scope

Phase 1: PL6

- Underground storage tank
- Connection to Mass. Ave. drain

Phase 2:

- Underground storage tanks
- Roadway & sidewalk reconstruction



Phase 1: PL6

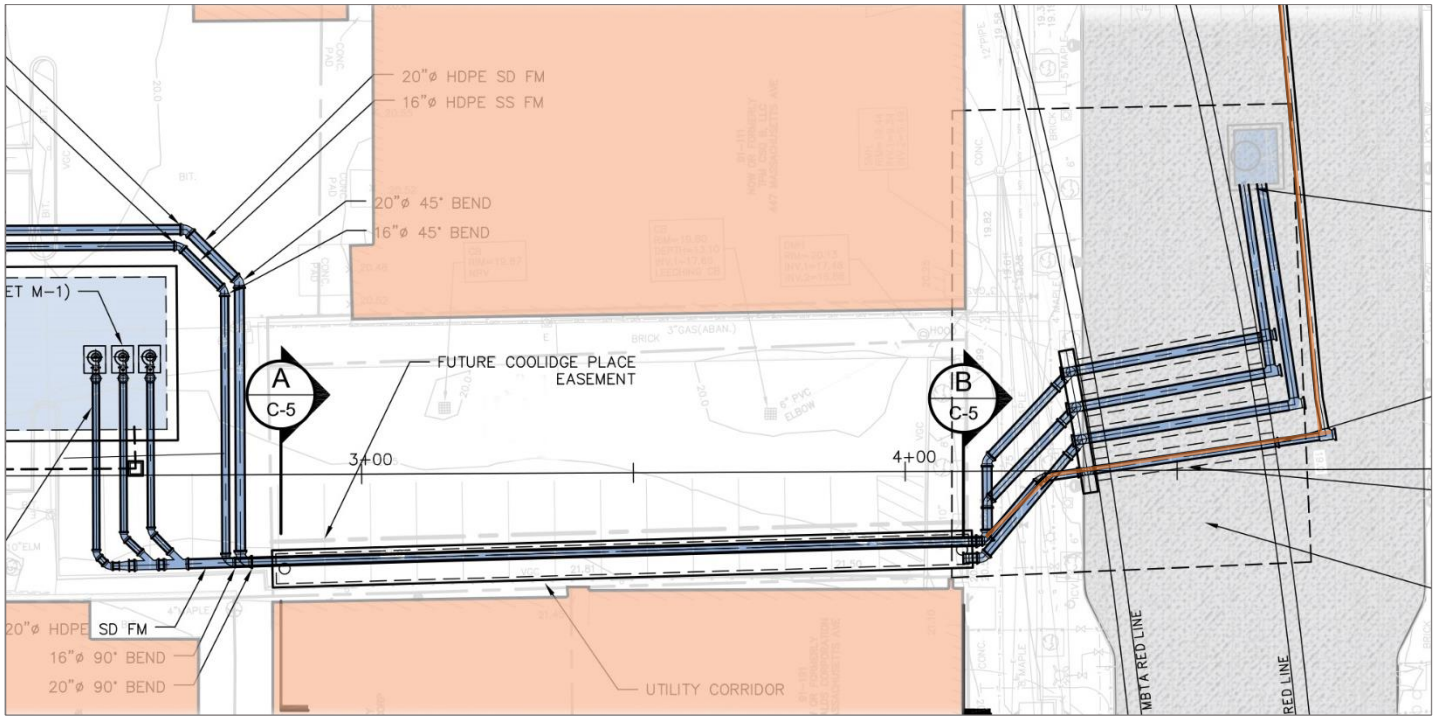
Tank constructed under City-owned Parking Lot 6

Four 20” pipes from the tanks through Coolidge Place and across Mass. Ave.

Coolidge Place pedestrian walkway: City right of way between McDonald’s and proposed Mass + Main building

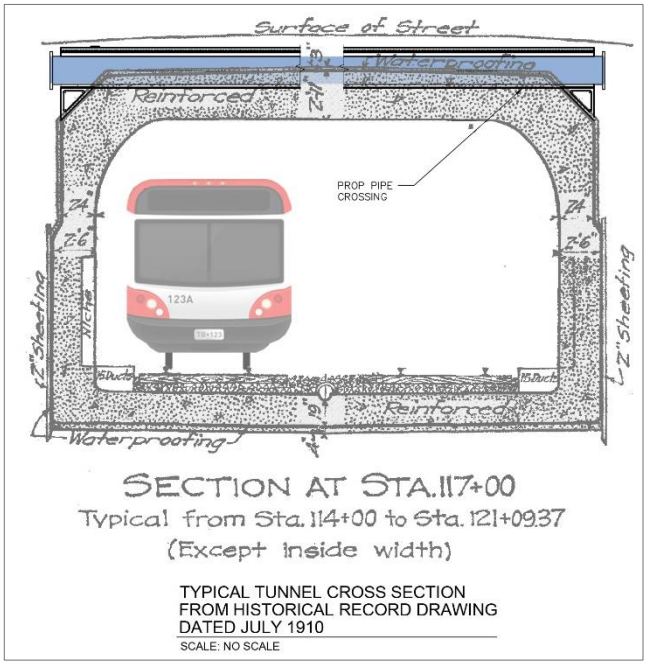
DESIGN OPTIONS

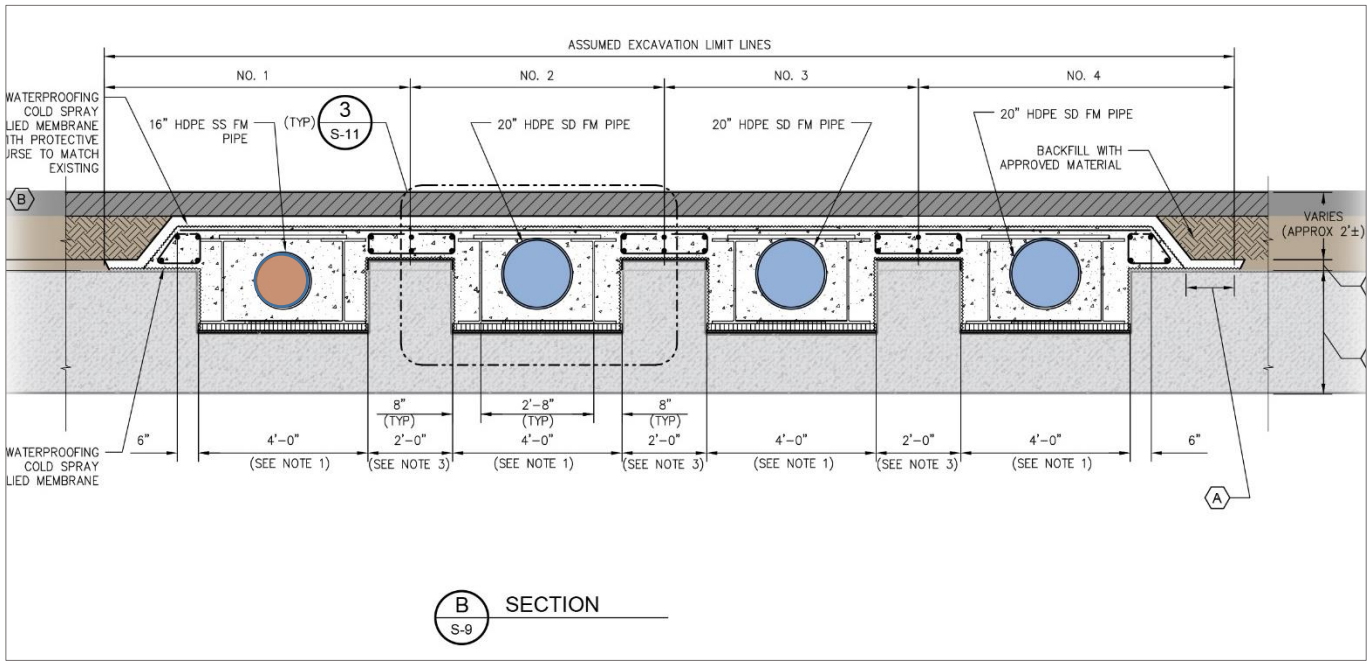
Mass. Ave. Crossing



- Designed to cross Mass. Ave. below roadway, across MBTA Red Line tunnel
- MBTA had minimal comments/concerns following review in 2007

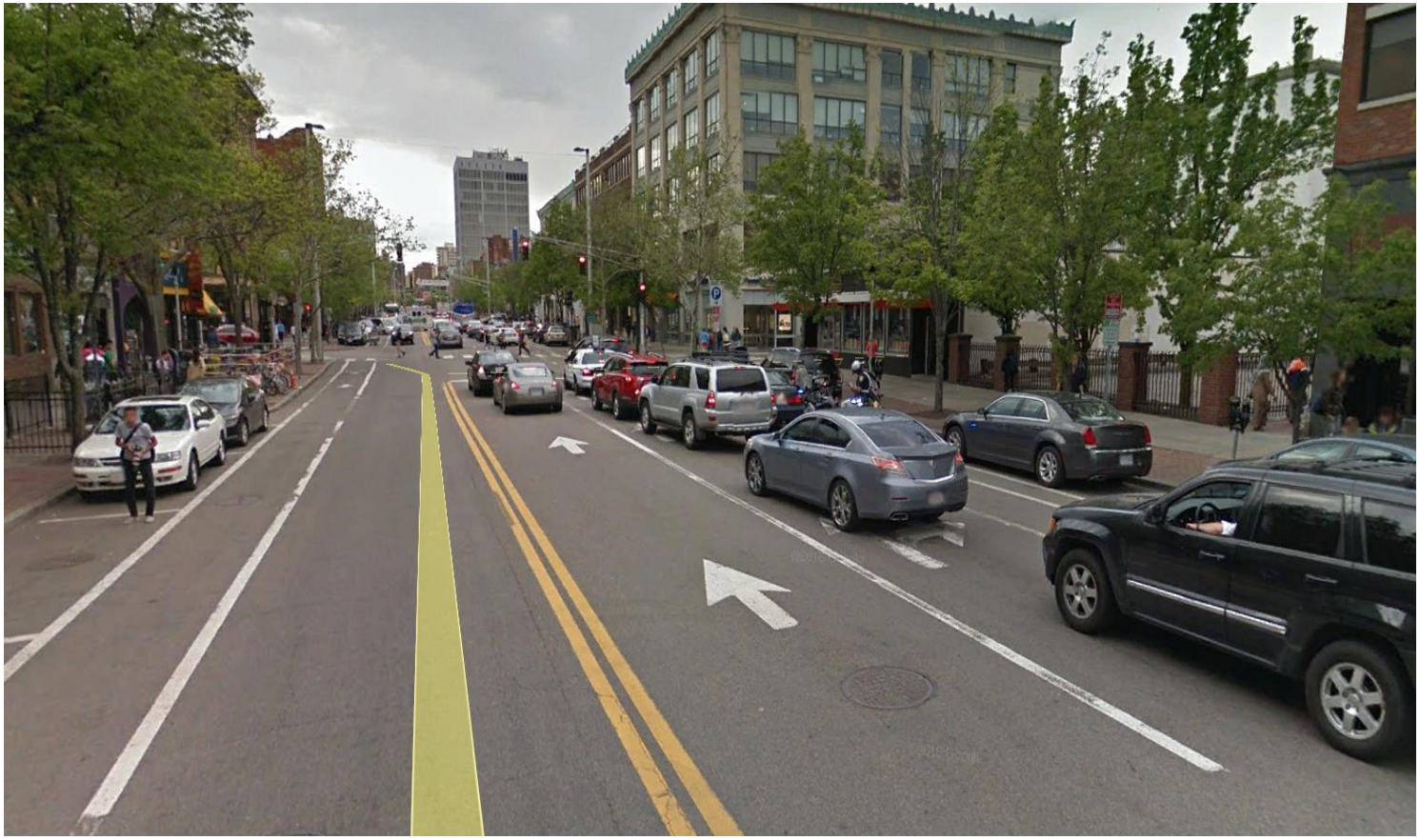
Mass. Ave. Crossing





- Notch into tunnel roof and cross over top of tunnel
- Met with MBTA & they raised structural concerns with tunnel crossing
- MBTA requested that we evaluate other options

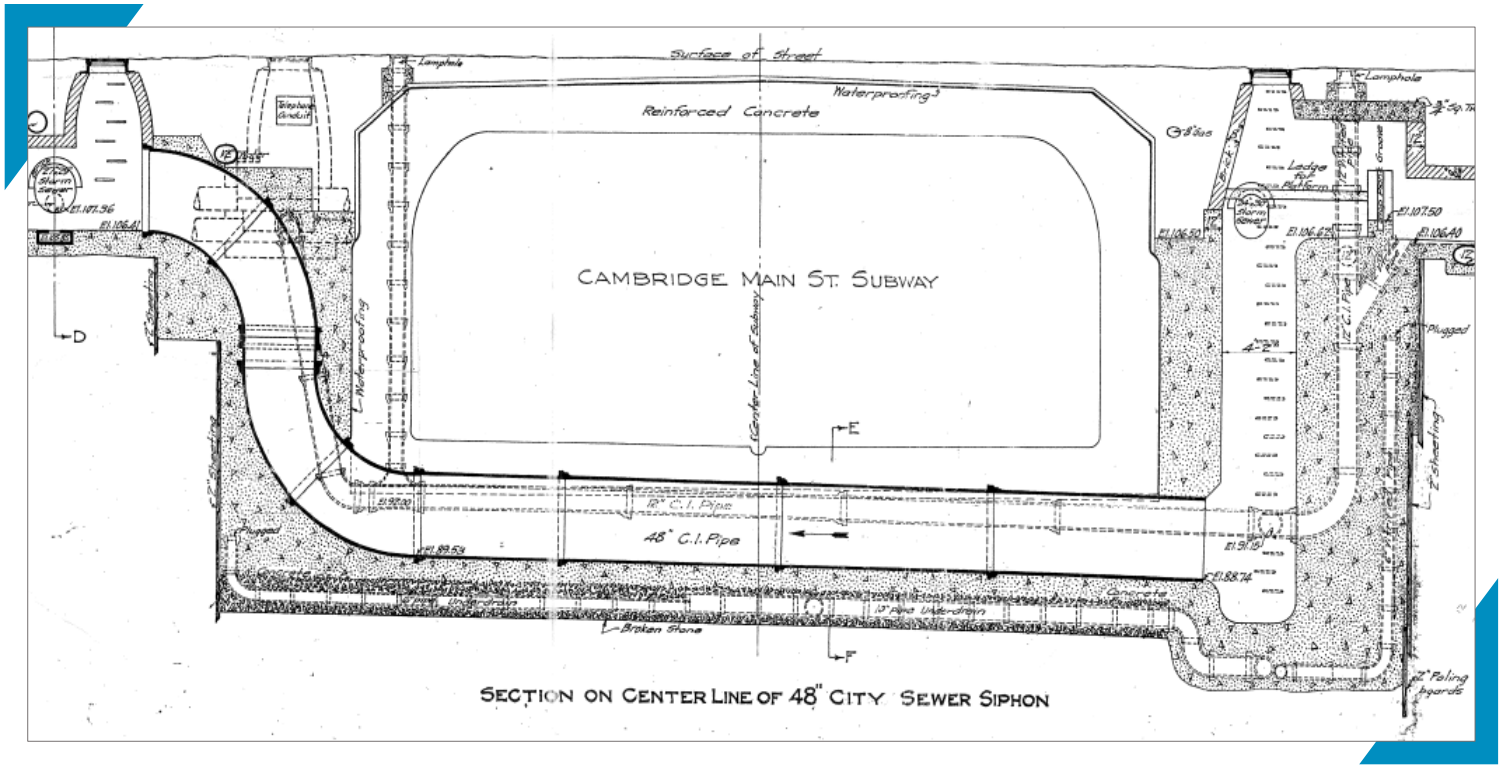
Mass. Ave. Crossing



Other Options

- Use existing crossing @ Douglass
- Pipe jack underneath tunnel

Use Existing City Crossing



SECTION ON CENTER LINE OF 48" CITY SEWER SIPHON

45% increase in flooding for the 25-year, present day storm.

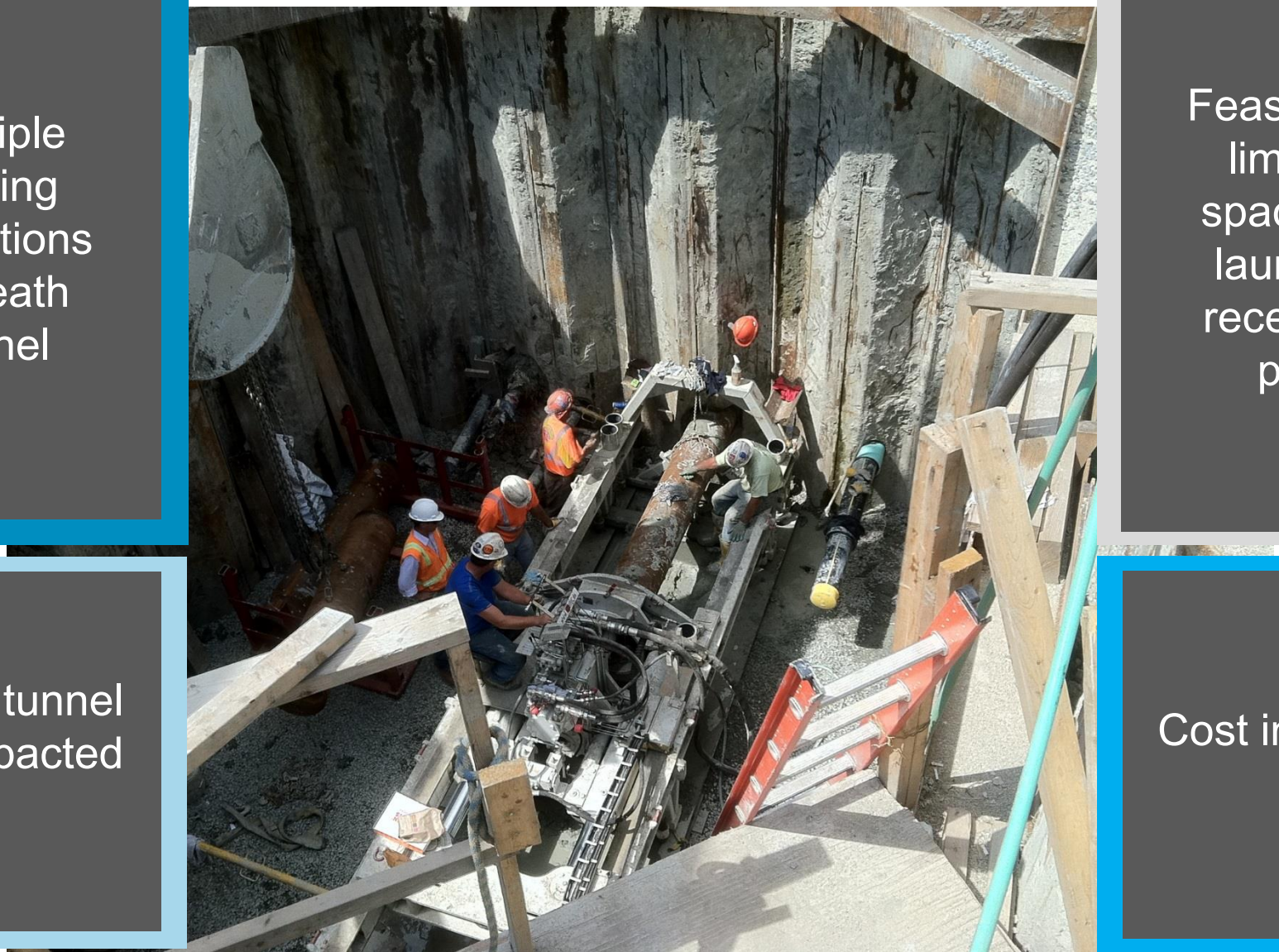
- Existing siphon at Douglas Street
- Pipe could be sliplined through siphon
- Significant loss of flood reduction benefit
- Only accommodates PL6 crossing

Pipe Jack Beneath Tunnel

DESIGN OPTIONS

Pipe Jack Beneath Tunnel

Multiple jacking operations beneath tunnel



Feasibility: limited space for launch / receiving pits

MBTA tunnel still impacted

Cost impacts

DESIGN OPTIONS

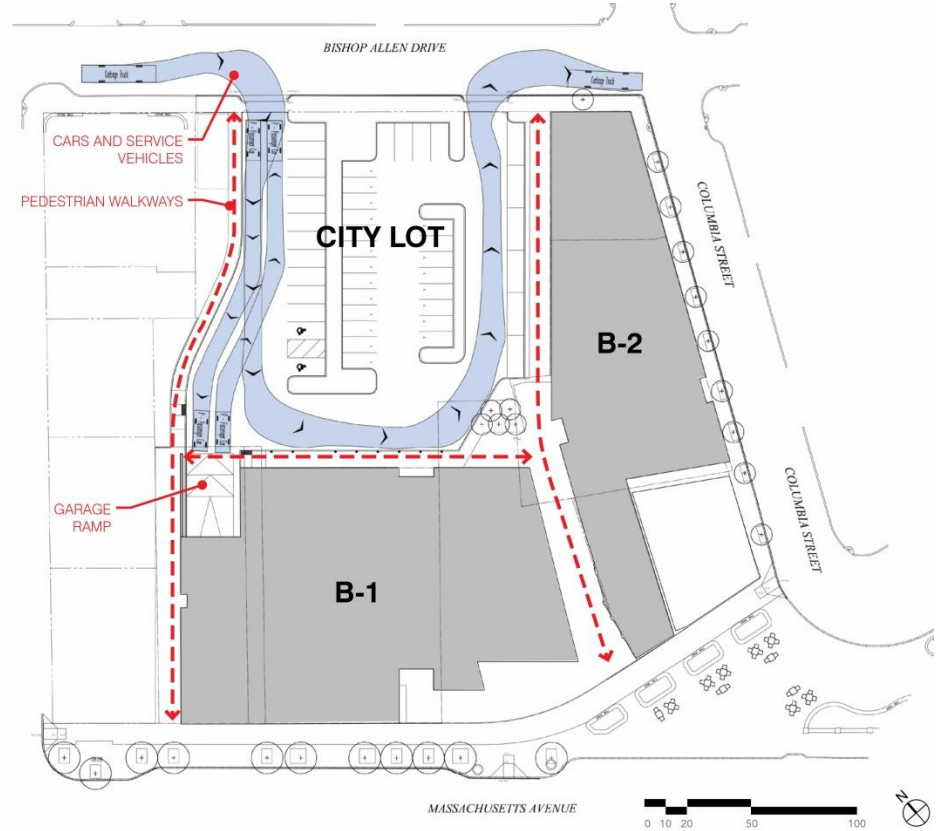
Mass. Ave. Crossing

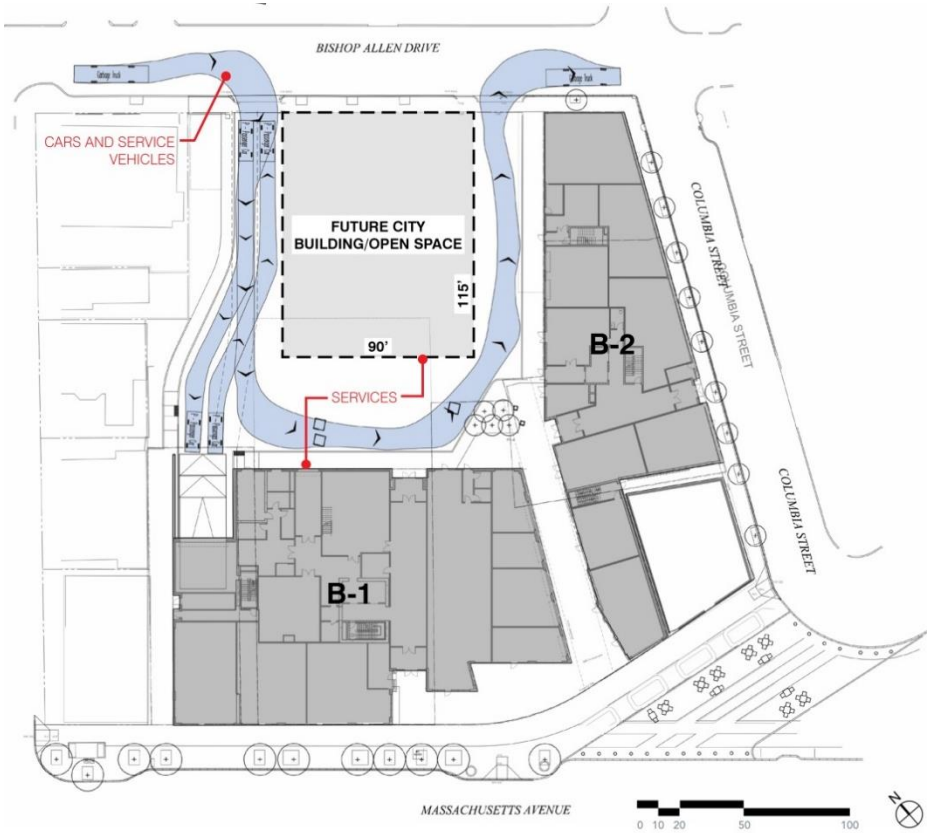
Currently the most challenging issue

Continuing to work with the MBTA

Design Options

City Parking Lot 6



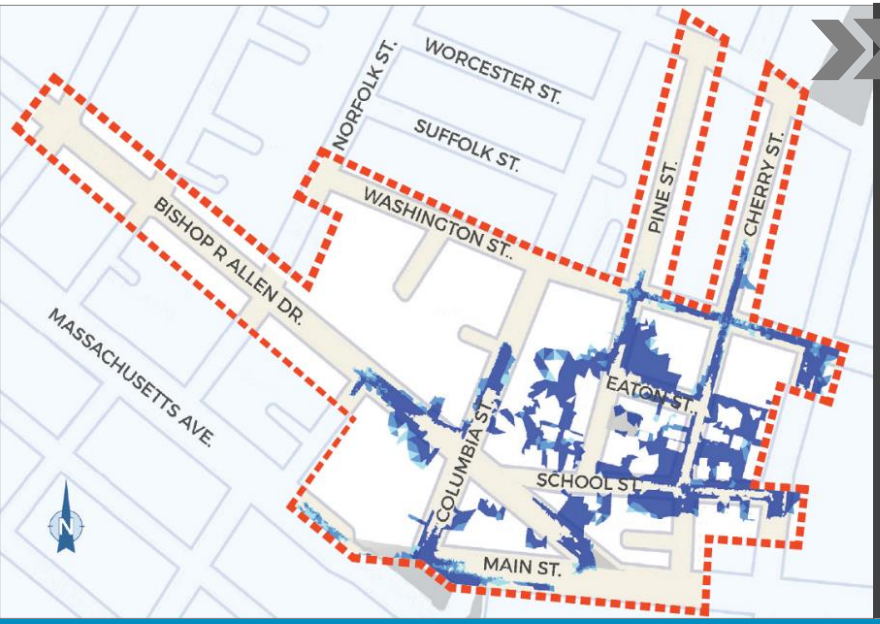


Parking Lot 6 -- Now and in the future

Strong coordination with Mass + Main development

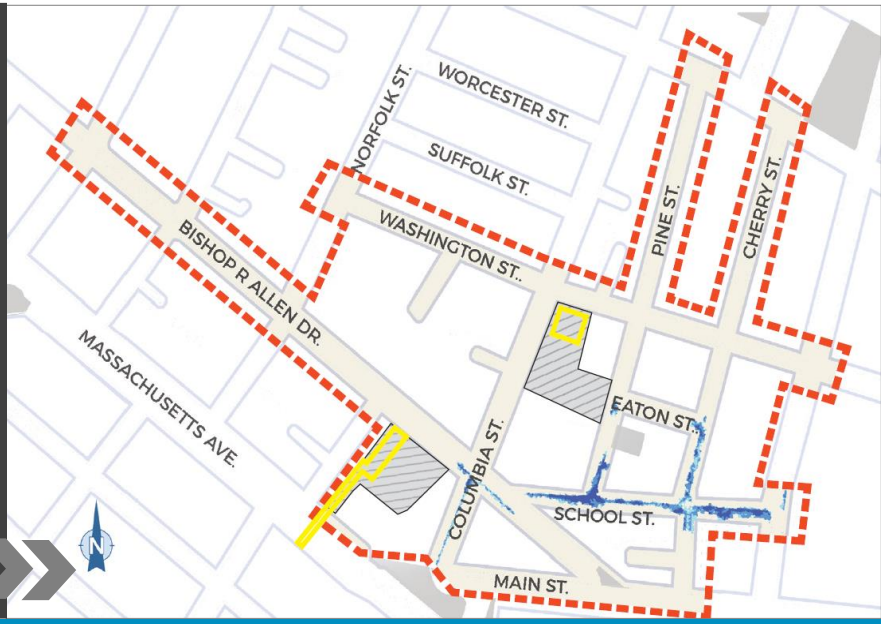
Benefits – Flood Reduction

Existing Conditions
Frequent / Smaller Storms



Decrease in surface flooding for frequent/ smaller storms

Storage Tanks Installed
Frequent / Smaller Storms



Anticipated flooding for a 2030, 10 year / 24 hour storm

Benefits – New Streets & Sidewalks

Accessible Sidewalks

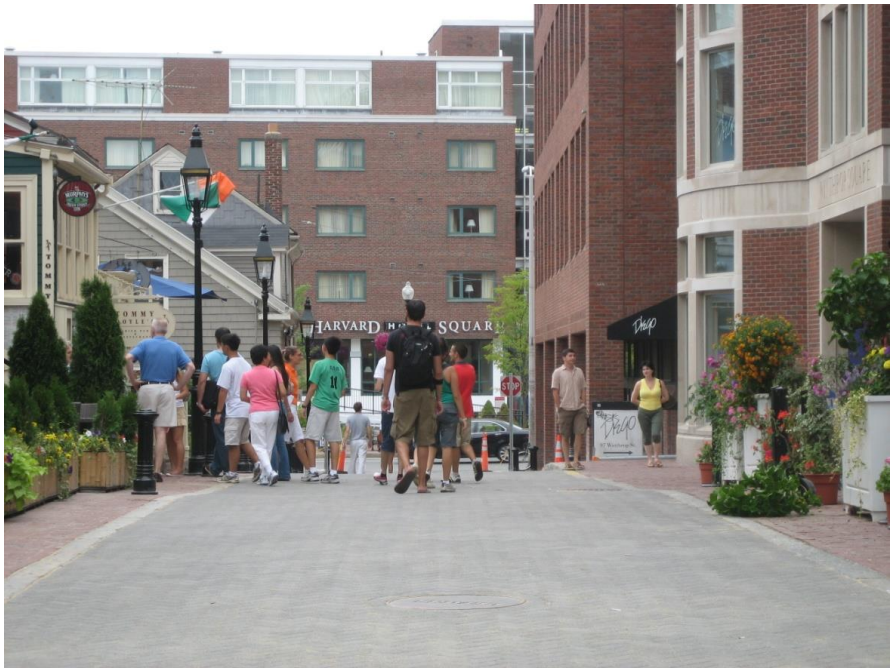
Benefits – New Streets & Sidewalks

Accessible Sidewalks

Benefits – New Streets & Sidewalks

Possible Shared Streets

Benefits – New Streets & Sidewalks



Winthrop Street – Before & After

Benefits – New Streets & Sidewalks

Palmer Street

Fern Street

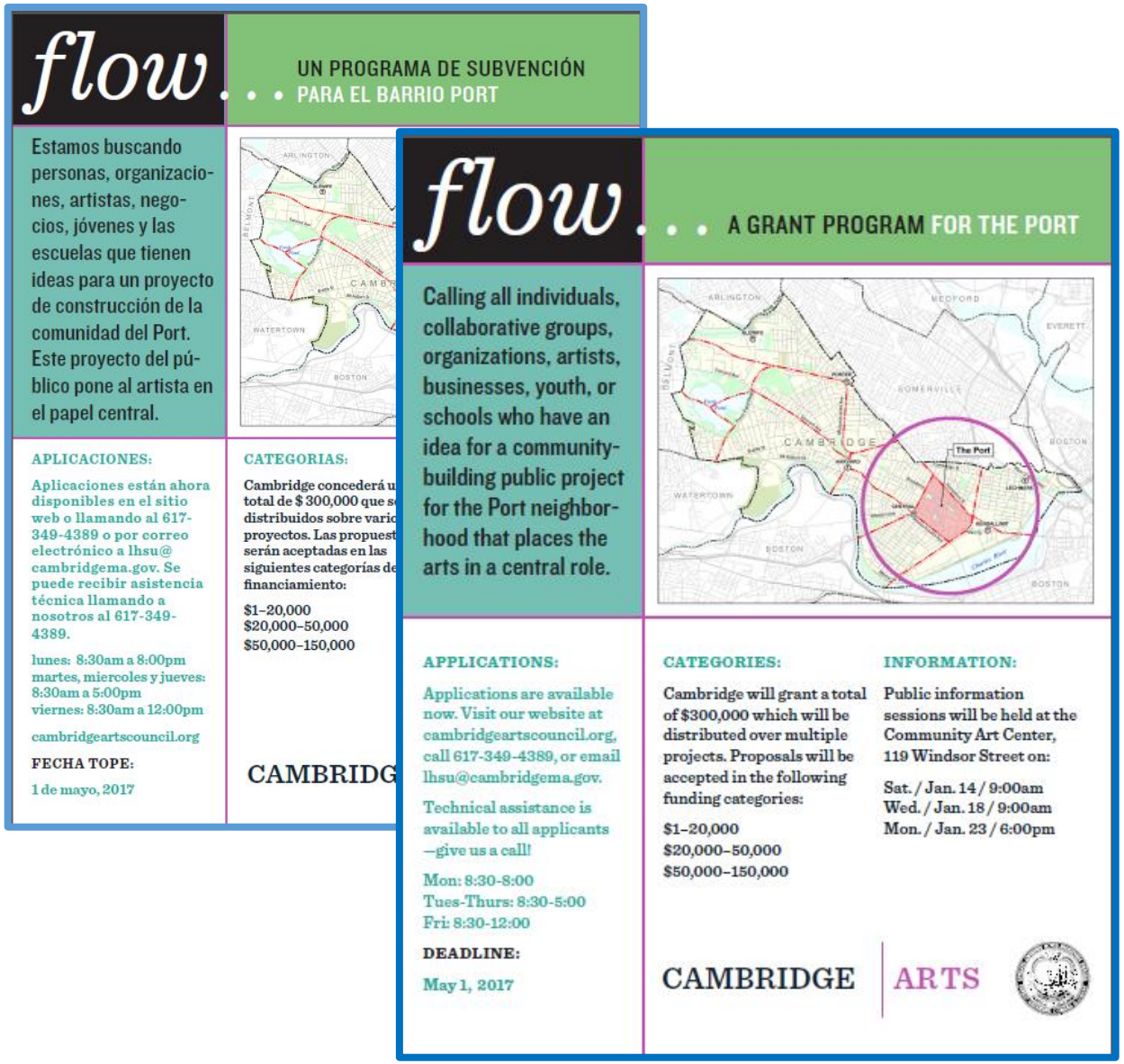
Benefits – Street Trees & Plantings

Benefits – New Streets, Sidewalks, Trees & Plantings

Work with the community to determine best designs for streets, sidewalks, plantings, etc.

Design Options

Benefits – Public Art



City 1% for Art

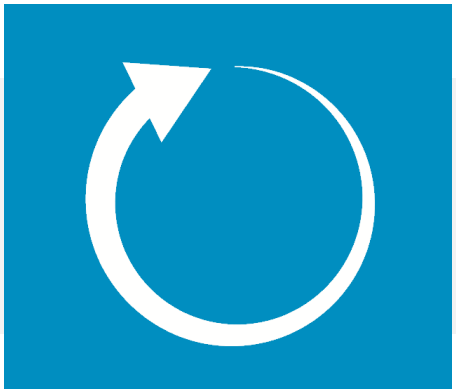
Grant Program

Partnering with the Community Art Center

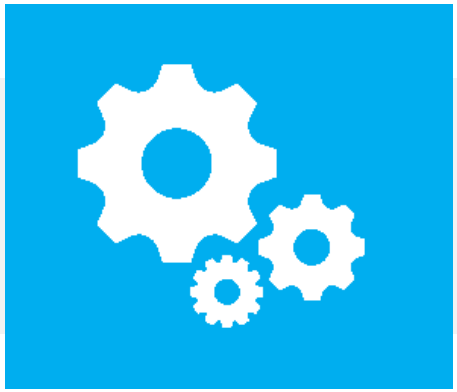
Engaging community

THE PORT PROJECT

Agenda



Project Overview

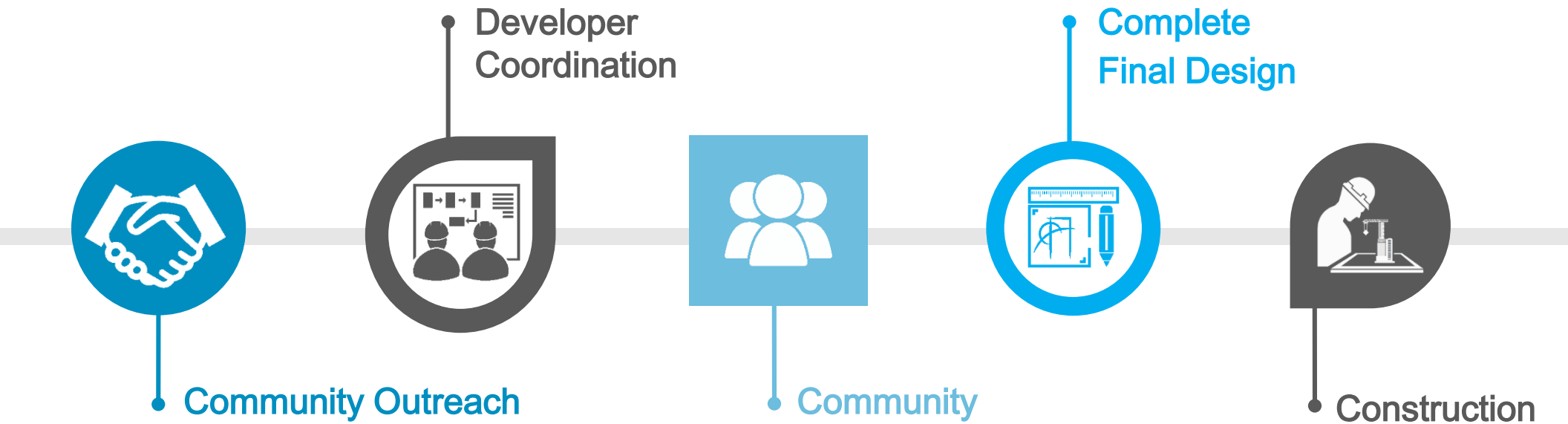


Design Options

Next Steps & Schedule

CAMBRIDGE DEPARTMENT OF PUBLIC THE WORKS

Next Steps & Schedule – Phase 1 PL6



Community Process

Fully engage community

Go *to* the community

Thoughts about groups, events that we should be reaching out to?

Who is not at the table?

Variety of options for participating

Community Process

Traditional Meeting Format

Next Steps

Community Process

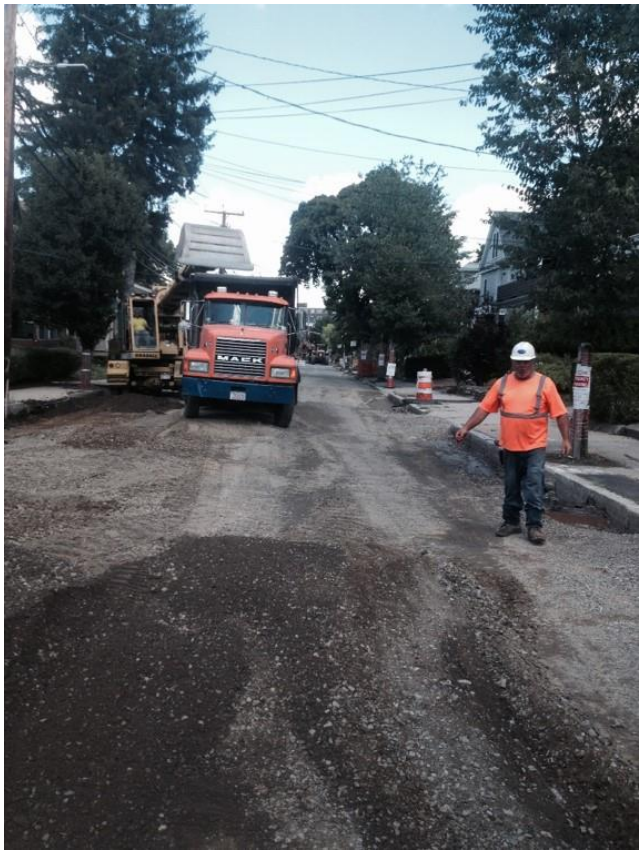
Recent DPW Outreach Efforts

Next Steps

Community Process

Recent DPW Outreach Efforts

Construction Impacts



Typical Street and Sidewalk Construction

Construction Impacts

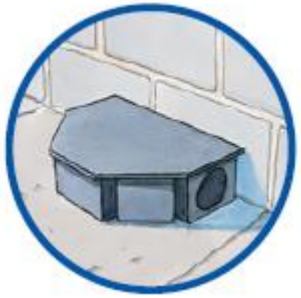
Manage parking impacts

Identifying replacement parking for Parking Lot 6 during construction

Construction Impacts

Myths and Facts About Rats

1. **Myth:** Rats the size of cats live in Cambridge.
   Fact: Most rats in our area weigh no more than one pound. When a rat is scared, it will fluff up its fur and look bigger, to scare away its enemies.
2. **Myth:** "Rat cities" are in our sewers and subway system.
   Fact: Only small pockets live in sewers and subways. Most rats live in burrows at ground or basement level.
3. **Myth:** City rats are "immune" to poison.
   Fact: Today's poisons work fine – but only if rats eat them. When garbage is easily accessible, rats don't take the bait.
4. **Myth:** More than one kind of rat lives in Cambridge.
   Fact: Only the Norway rat lives here. It varies in color and size, depending on how old it is and where it lives. As a result, people call it different names (city rat, brown rat, sewer rat, wharf rat, river rat, alley rat, house rat). It's all one species.
5. **Myth:** Cats, dogs, hawks, skunks, possums, and other animals help control city rats.
   Fact: They may kill an occasional rat, but they can't keep up with rats' rapid breeding rates. Only people can make a difference!



Pre-Construction Management

Work with property owners to minimize food supply and harborage

Baiting before and during construction

Next Steps

Schedule

Phase 1: PL6

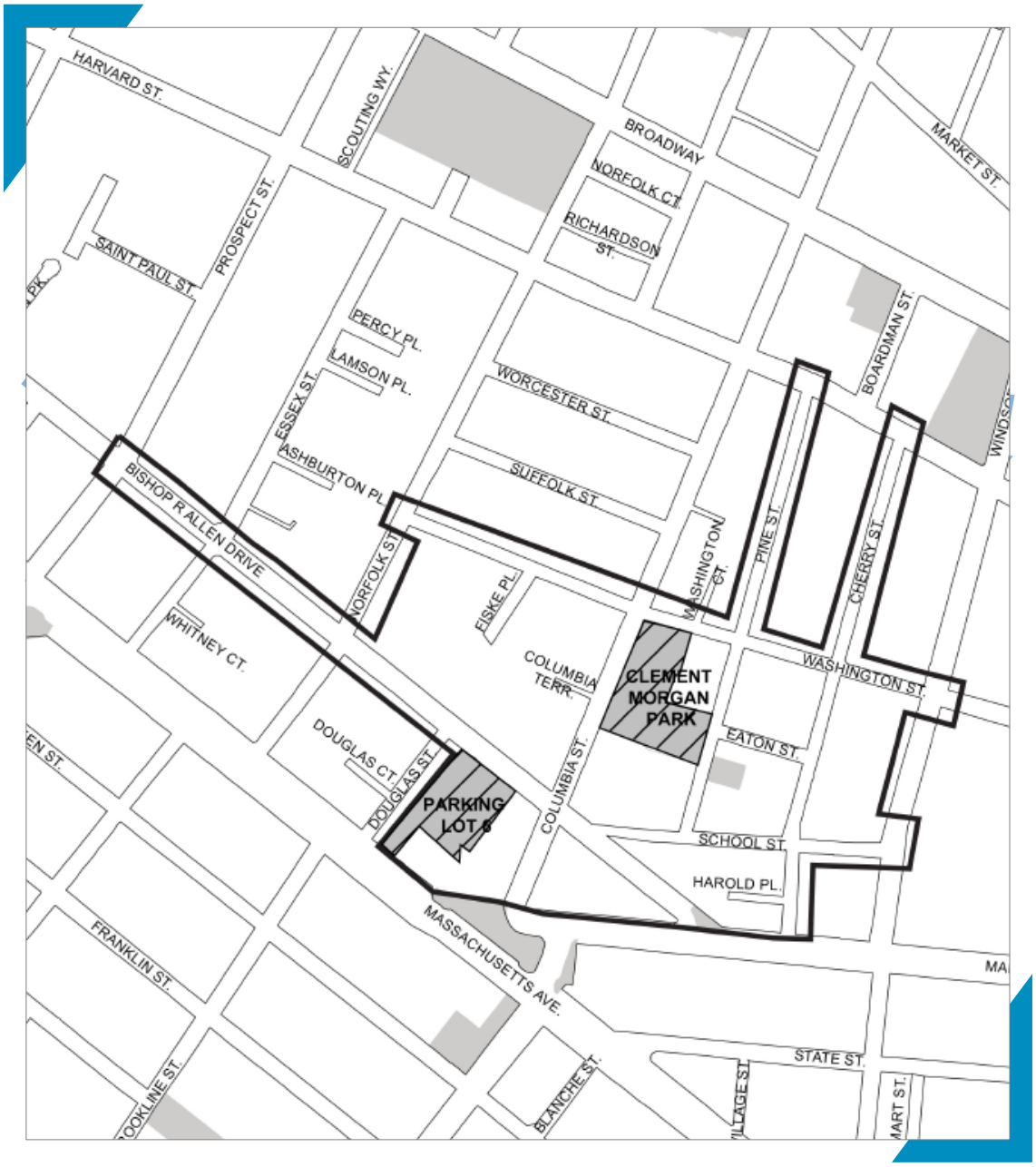
Begin Construction Summer 2017

Phase 2: 2nd Tank

Construction 2019

Includes streets and sidewalks

Need to consider phasing of street and sidewalk work to manage construction impacts



NEXT STEPS

Phase 2 – Second Tank

Concerns – Evaluating Options

COMMENTS & QUESTIONS

CAMBRIDGE DEPARTMENT OF PUBLIC THE WORKS

For More Information:

www.cambridgema.gov/theworks/theport

Katherine Watkins, City Engineer
kwatkins@cambridgema.gov / 617.349.4751

KyAnn Anderson, Community Relations
Community.Cambridge@Kleinfelder.com / 617.498.4708

Margaret Fuller House, 71 Cherry Street, 1806